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APPLICATION OF PUBLIC HEALTH METHODS TO THE PROBLEMS ASSOCIATED WITH PERIODONTAL DISEASES*

By J. M. Wisan, D. D. S., M. P. H., F. A. P. H. A.**
and D. Walter Cohen, D. D. S.

Dental public health is advancing with the wider scope and application of public health programs. Current concepts of health idealize longer and better living. Within this pattern of maximum health (1) for our aging population, dental health of adults commands the attention of public health authorities who are no longer justified in limiting dental programs to children.

The American Public Health Association, in a resolution adopted at its meeting in 1954, predicted that "the control of periodontal disease represents the next major activity of dental public health" (2). In editorial reference to this resolution, the American Dental Association stated, "Dentistry appreciates the present expression of interest in problems associated with periodontal diseases by its allied professional workers . . . Truly, the need for uncovering full information on the etiology, the prevention and treatment of periodontal disease is clear and the potential benefits of such knowledge to the public are vast" (3).

It would seem, therefore, that the subject, "How Can Public Health Methods Be Applied to Problems Associated with Periodontal Diseases?", is both timely and significant.

CURRENT KNOWLEDGE OF PERIODONTAL DISEASE

The term "periodontal disease" applies to a syndrome of inflammatory and degenerative processes which affect the supporting structures of the teeth; namely, the gingivae, alveolar process, periodontal membrane, and the cementum. The simplest classification (4) of these conditions is to divide them into the inflammatory (gingivitis and periodontitis) and degenerative lesions (periodontosis and occlusal traumatism). But many conditions encountered clinically are combinations of the inflammatory and degenerative processes.

Most authorities recommend the following objectives for periodontal treatment:

1. Elimination of Etiologic Factors. The causative factors of diseases of the supporting structures are many (5). Usually they occur locally in the oral cavity, but sometimes a systemic condition may be a predisposing factor in diseases of the attachment apparatus. Most cases of periodontal disease are the result of several local etiologic factors. Before one can consider the therapy successful, these irritating agents must be removed.

---

*Presented before the Dental Health Conference, Kansas City, Mo., on November 14, 1955.

**Chief, Dental Health Section, Division of Preventive Medicine, Department of Public Health, City of Philadelphia.

2. Elimination of Pockets. Most investigators have found that the principal periodontal lesion is the pocket, or pathological space, existing between the tooth and the inflamed gingival tissue. These pockets are classified according to topography, and most schools of thought (6) on periodontal therapeutics agree that the pockets must be eliminated, and that a crevice as near zero depth as possible must be established.

3. Restoration of Physiologic Gingival Architecture. Recent papers in the field of periodontology have noted that removal of the etiologic factors and the elimination of pockets may not bring the gingival tissues to a point where the disease process will not recur. The color, texture, contour, and location of the gingivae must be brought within physiologic limits (7).

4. Effecting a Harmonious Functional Occlusion. The role of occlusal dysharmonies (8) in destroying the alveolar process has been described in dental literature. These traumatic factors result from forces, applied through tooth-to-tooth contact, which excite an influence beyond the physiological resistance of the periodontal tissues. In some cases, selective grinding procedures will harness these forces, while in the advanced cases, extensive restorative procedures are necessary before bringing about a physiologic occlusion.

5. Maintenance of Periodontal Health by Means of Oral Physiotherapy. The beneficial effects of periodontal treatment can be undone if the patient neglects the oral hygiene methods taught by the dentist (9). These methods entail not only cleansing technics, but also those which massage the gingival tissue, improve the blood circulation, and produce and maintain a hornified resistant epithelial surface.

From this brief description of the objectives of periodontal therapeutics one realizes that treatment requires considerable chair-time and careful attention by the dentist. In view of the wide prevalence of periodontal disease, it will be almost an impossible task for community agencies to treat and control, even in a selected group, all affected mouths. A program of prevention is necessary.

Unfortunately, the present known methods of prevention leave much to be desired. No preventive measures have yet been discovered which are effective on large groups of patients, as is fluoridation of communal water supplies for dental caries (10). The difficulties of a preventive program may be one of the reasons for the paucity of literature disseminated among the lay public about periodontal disease and its treatment. A survey of textbooks on periodontia by one of the authors (D. W. C.) revealed little material on prevention.

Known preventive measures require regular, skillful, and individual attention by a dentist, and careful daily care by the patient (10). The following outline presents current authentic recommendations to help individuals prevent and control periodontal disease (7), (9).

1. Regular medical examinations

2. Thorough oral diagnoses:

   (a) Evaluation of gingival health:

      (1) Noting color, contour and location of gingivae

      (2) Probing the gingival crevice

      (3) Locating the muco-gingival junction and high frenum attachments

   (b) Observation of the teeth noting:

      (1) Mobility patterns

      (2) Abnormal wear facets

      (3) Occlusal dysharmonies

      (4) Tooth form and position

      (5) Need of orthodontic regulation

   (c) Radiographic survey of teeth and supporting structures:

      (1) Quantity and quality of the alveolar process

      (2) Resorptive patterns

      (3) Thickness of the periodontal membrane

      (4) Morphology of roots and crown-to-root ratio

   (d) Appraisal of restorations, present and/or required:

      (1) Fillings

      (2) Replacement of missing teeth

3. Comprehensive instructions in, and motivation for, the proper use of oral hygiene technics which maintain the health of teeth and supporting structures (9).

4. Dietary analysis.

5. Correction of faulty oral habits (11), (12).

Muhler, Hine, and Day summarize present-day knowledge in these words: "Prevention of periodontal disease will depend upon satisfactory development of adequate supporting tissues of the teeth, then correction or removal of

etiologic factors by the dentist; followed by maintenance of excellent oral hygiene by the patient" (13).

RESEARCH

Obviously, the greatest need in the field of periodontology is the determination and utilization of more effective preventive and control measures. These measures will be achieved only after researchers have revealed the cause, or causes, of periodontal disease. The fact that the Research Committee of the American Academy of Periodontology found 28 dental schools conducting biological and clinical investigation in this field indicates an awareness of the need of more basic information (14).

In the resolution (2) referred to, the American Public Health Association urged more intensive research on methods of prevention and control, and on the epidemiology of periodontal disease. Undoubtedly, the National Institute of Health, the Armed Forces, the Veterans Administration, and medical and dental schools will not only increase their investigatory efforts, but, as suggested by some authorities, will also find means for correlating their studies (14).

In the absence of standardized diagnostic criteria and methods of assessment of periodontal disease, it is virtually impossible to make a reliable comparison of prevalence and incidence figures on periodontal disease conducted within or beyond the United States. Dummet states, "The complexities of the epidemiological characteristics of periodontal diseases are in need of study, . . . careful research is required to develop sound indexes which can be utilized in evaluating the incidence and prevalence of periodontal disease and the level of periodontal health in individuals and population groups" (15), (16).

Chilton (17) also contends that standardized criteria must be established to obtain more reliable statistics on the epidemiological characteristics of periodontal disease. Both the University of Michigan Periodontal Workshop (18) and the Council on Dental Health of the American Dental Association (19) officially stated that the lack of adequate measuring devices has hindered the development of more effective preventive and treatment procedures for periodontal diseases.

Encouraging progress is evidenced from the contributions of King, Massler, Marshall-Day, and Russell in developing a reliable index to measure the prevalence of periodontal disease. The data reported by these and other observers demonstrated the significance of periodontal disease to public health authorities.

Massler revealed that 56 per cent of 6 year old children in Chicago suburbs had gingivitis (20). Marshall-Day reported 80 per cent of Boston boys and girls, 13 to 15 years old, having gingivitis (21).

Symptoms of advanced periodontal disease were reported by Marshall-Day among 24 per cent of 18 year old children, among 69 per cent of 26 year olds, and in "nearly all" 45 year olds examined (21). Belting, Massler, and Schour (

reported somewhat better conditions among male veterans: 6 per cent among 20 to 24 year olds, and 50 per cent among veterans 45 to 49 years old had alveolar bone disease.

The percentage of teeth lost by adults examined in Marshall-Day's study increased by age: 19 per cent among 35 to 39 year olds; 32 per cent among 40 to 45 year olds; 50 per cent among 49 to 51 year olds; and 60 per cent among 60 year olds (21).

Despite the extremely high morbidity and tooth mortality figures, Marshall-Day observed that only 9 per cent of all subjects examined were aware of the presence of periodontal disease, and that only 7 per cent reported receiving treatment for this condition (21).

Most periodontists accept the theory of "continuous passive eruption" advanced by Gottlieb; namely, that there is a gradual physiologic resorption of the alveolar process as individuals age (16). Stahl, Wisan, and Miller (23) reported that bone loss was more severe in Veterans Administration Hospital patients suffering from diseases affecting general cellular metabolism than in patients admitted for local ailments. Sandler and Stahl (24) observed that inflammatory and degenerative gingival symptoms are more widespread in persons with generalized debilitating diseases.

The following tabulation summarizes the above data, but clearly exposes the need for standardization and uniformity in reports of the incidence and prevalence of periodontal disease.

Table I

PERIODONTAL DISEASE DATA

Table I

Age	Group Studied	Condition Reported	Percentage of Group Affected	Investigator
6	Chicago Suburbs School Children	Gingivitis	56	(20)Massler, Cohen, Schour
7	" " " "	"	75	"
8	" " " "	"	78	"
9	" " " "	"	80	"
10	" " " "	"	83	"
11	" " " "	"	80	"
12	" " " "	"	72	"
13	" " " "	"	67	"
14	" " " "	"	55	"
15	" " " "	"	51	"
16	" " " "	"	48	"
17	" " " "	"	46	"
13-15	Boston, Heterogeneous Group	"	80	(21) Marshall-Day
18	" " "	Chronic Destructive Periodontal Disease	24	"
20-24	Chicago, Male Veterans	Alveolar Bone Disease	6	(22)Belting,Massler,Schour
25	Boston, Heterogeneous Group	Chronic Destructive Periodontal Disease	69	(21) Marshall-Day
45	" " "	" " " "	Nearly All	"
45-49	Chicago, Male Veterans	Alveolar Bone Disease	50	(22)Belting,Massler,Schour

Age	Group Studied	Percentage of Teeth Lost	Investigator
35-39	Boston, Heterogeneous Group	19	(21) Marshall-Day
40-45	" " "	32	"
49-51	" " "	50	"
60+	" " "	60	"

RUSSELL'S SCORE

5-9	0.02+	.001	Russell
10-14	0.07+	.002	"
15-19	0.10+	.007	"

Current information concerning the extent of periodontal disease among our population can be summarized as follows:

1. Gingivitis appears during childhood.

2. Periodontal disease is a major health problem in middle and later life.

3. Periodontal disease is the most frequent cause of oral infections and tooth loss after 35 years of age.

Since improvements in epidemiological methods are so vital, the work of Russell (25) merits critical consideration in our discussion. Russell advocates a system of classification and scoring for prevalence surveys of periodontal disease. The following briefly describes how he obtains his data among groups:

> "The condition of the investing tissues is estimated individually for each tooth in the mouth, and is scored according to a progressive scale which gives relatively little weight to soft tissue inflammation and relatively great weight to destruction of bone. The score for an individual patient is the arithmetic average of the scores for the teeth in his mouth. The population score is the arithmetic average of the individual scores for the persons examined. Scores may be computed for a population of teeth (for example, for mandibular first incisors) as well as for persons.
>
> "Required field equipment has been reduced to a minimum. Mouth-mirror and explorer are supplemented occasionally by a straight Jacquette scaler or the chip blower for periodontal pocket. Adequate light is essential, preferably from a source corrected to the approximate color of sunlight."

Table II describes Russell's criteria for scoring periodontal disease.

Table II

RUSSELL'S CRITERIA FOR THE PERIODONTAL SCORE (25)

Table II

Score	Criteria and Scoring for Field Studies	Additional X-ray Criteria Followed in the Clinical Test
0	Negative. There is neither overt inflammation in the investing tissues nor loss of function due to destruction of supporting tissues.	
1	Mild Gingivitis. There is an overt area of inflammation in the free gingivae, but this area does not circumscribe the tooth.	Roentgenographic appearance is essentially normal.
2	Gingivitis. Inflammation completely circumscribes the tooth, but there is no apparent break in the epithelial attachment.	
4	(Not used in the field study)	There is early, notch-like resorption of the alveolar crest.
6	Gingivitis with Pocket Formation. The epithelial attachment has been broken and there is a pocket (not merely a deepened gingival crevice due to swelling in the free gingivae). There is no interference with normal masticatory function, the tooth is firm in its socket, and has not drifted.	There is horizontal bone loss involving the entire alveolar crest, up to half of the length of the tooth root (distance from apex to cemento-enamel junction).
8	Advanced Destruction with Loss of Masticatory Function. The tooth may be loose; may have drifted; may sound dull on percussion with a metallic instrument; may be depressible in its socket.	There is advanced bone loss, involving more than half of the length of the tooth root; or a definite intrabony pocket with definite widening of the periodontal membrane. There may be root resorption, or rarefaction at the apex.

Rule: When in doubt, assign the lesser score.

Russell's scoring system may help public health authorities not only to obtain statistical data, but also to evaluate methods of preventing and treating periodontal disease. His procedure may provide a true measure of severity and may furnish data that are comparable when obtained by different observers. Moreover, field examinations can be made with a minimum expenditure of time and with the use of few instruments.

PROGRAMS FOR COMMUNITY AGENCIES

As new developments are reported from the field of periodontology, public health departments will need to investigate methods of application. The term "investigate" is used because thus far little has been attempted or achieved in orienting a periodontal program in public health departments. Because of the paucity of information on this subject, this discussion is limited to an explanation of preliminary plans formulated by the Philadelphia Department of Public Health.

Encouraged by the results obtained for its children's dental program by coordinating the activities of health, welfare and education agencies (26), the Department proposes to use a similar community-wide approach in studying the possibilities and probabilities of public dental health programs for adults.

The Dental Health Section of the Philadelphia Department of Public Health requested the Philadelphia Society of Periodontology to cooperate in reviewing present-day knowledge of periodontal disease. Secondly, the Council of Dental Health of the Philadelphia County Dental Society was asked and has agreed to accept the leadership in coordinating community agencies so that an active and dynamic program might be organized. The following projects are contemplated:

1. A poll of dentists' opinion and practices concerning various aspects of periodontal diseases.

2. A poll among lay persons to develop information about their concepts of periodontal diseases.

3. Dental surveys, using Russell's index. (See Table II)

4. Public educational programs.

5. Post-graduate and refresher courses for local dentists.

6. Studies of the feasibility of community treatment programs.

As an initial step, the Philadelphia Society of Periodontology was requested to appoint a committee to organize an educational program for lay persons. It was agreed that before adequate material could be prepared it would be necessary to review current knowledge of the subject and to be informed of the attitudes and practices of general practitioners and specialists. Also, it is important to obtain an insight of the knowledge and habits of the public in respect to periodontal diseases and to obtain information of the "type and potency of the blocks which deter patients from going to dental offices or accepting complete treatment" (27). Two polls will be conducted to obtain this information.

It is predicted that the distribution of the two poll-questionnaires will stimulate the interest of dentists in this subject and alert the public to the benefits of regular dental care.

The Council on Dental Health of the Philadelphia County Dental Society, the Philadelphia Society of Periodontology, both Philadelphia dental schools, the Health Department, and public and parochial schools will cooperate in a survey of periodontal conditions in Philadelphia. Russell's system of scoring will be used.

Educational programs will be developed by a number of community agencies. Television kinescopes have been produced by the Dental Service of the Board of Public Education. The Philadelphia Society of Periodontology has prepared a radio script. The Health Department will publish an educational leaflet for use in public programs as well as in private dental offices. In view of the trend (28) toward making the patient a part of the preventive and therapeutic team, such educational material is needed.

Some general practitioners seem to be uncertain concerning preventive measures and are unaware of the advantages of periodontal treatment. To remedy this shortcoming, refresher and post-graduate courses will be organized by dental schools, by dental staffs in hospitals, and by members of the Philadelphia Society of Periodontology. Currently, a number of such courses are being organized for morning sessions in various neighborhoods so that they will be convenient to dentists throughout the city. These courses will be offered without fees for tuition.

In order to include periodontal treatment in prepayment plans and in programs for low income groups, more information is required than is available at present. Consequently, committees will be assigned to study the problem and to report findings to the Council on Dental Health.

The six projects contemplated reveal the wide scope necessary for the development of community efforts to improve periodontal conditions. Surely the chances of success are greater in Philadelphia if the collaboration being organized becomes an eventuality.

SUMMARY

The authors have presented evidence indicating that dental and public health authorities are aware of the significance of periodontal disease. Current knowledge was reviewed and data estimating the prevalence of this disease were presented.

Requirements for research both in epidemiology and for obtaining more effective preventive and treatment measures were emphasized.

Preliminary plans for a community approach to problems associated with periodontal diseases were discussed.

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SHORT - AND LONG - TERM OBJECTIVES IN DENTAL PROGRAM PLANNING - AND RESOURCES WHICH AFFECT THE DETERMINATION OF PROGRAM OBJECTIVES *

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Four of the most popular terms of the jargon of the public health professions are "objectives," "resources," "program-planning," and "evaluation." These terms are not unique to public health, but rather the dynamic nature of public health demands constant expenditure of effort to determine desirable objectives and the most effective resources by which they may be attained. Hence, program-planning and evaluation are public health endeavors which never cease.

This presentation has as its purpose a review of those resources which will affect the determination of the objectives when planning a program of dental public health.

Planning a program requires a systematic analysis of the groups and organizations that may be involved as participants in the program under consideration.[1] Such groups and organizations constitute the personnel sector of the resources available to the planners of the program. The remaining resources may be grouped into two additional categories. They are the financial and the physical resources.

For this presentation the term "resources" refers to the means available for the implementation and conduct of the proposed program, and "objectives" means the ultimate goals being sought through the program.

In addition to these resources there are other resource factors which must be considered at the time the objectives of the program are being determined. The existence of the problem must be recognized; otherwise there would be no justification for the program. But the mere recognition of the existence of the problem is insufficient—there must be a determination of the extent of the problem.

It is impossible to evaluate properly the resources which are available without a delineation of the extent of the problem. There are several methods by which the extent of the problem may be determined. The most obvious method is a thorough examination of every member of a universal population. The impracticality of such an examination is apparent. It would be expensive in both time and money, and the resultant data would be so bulky that efficient summarization would be a tremendous task. The recognition of these obstacles has stimulated the development of survey technics for collecting data.

Any survey may be characterized as a comprehensive critical inspection to provide exact information concerning a specific condition or its prevalence.

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*Presented at the American Public Health Association Meeting, Kansas City, Mo., November 17, 1955. (Dental Section)

Surveys are widely employed by public health workers and are designed to secure selected items of information at the time the information is collected on conditions in a group or a representative portion of the population.[5] The survey is not, and should not be, an end in itself. If the purpose is to assemble useful information for reference by anyone who cares to consult it, then the survey should be so planned and conducted. If it is to be part of a program of action, then it should be so oriented, and only the essential material should be solicited.[14] After the information has been collected, it must then be classified, tabulated, summarized, and interpreted. Upon completion of these five steps will depend the determination of the extent of the problem and from this determination a notion of the possible methods by which the condition may be reduced or removed.

There is a tendency for dental public health workers to use the phrase "unmet dental needs"[3] as often and as carelessly as they use the terms "resources" and "objectives." Scientific surveys and field studies have revealed the near universitality of the dental diseases. With the possible exception of the common cold and eruptions of the skin, dental caries occurs more frequently in a population than any other disease entity.[4] Dental caries affects ninety-five per cent of the population. Additional studies indicate that the other dental diseases may have an equal, or a nearly equal, distribution.[9, 10, 13]

There is not a practical method available by which it is possible to determine the proportion of the dental need which remains untreated. There is, in fact, no valid reason at this time to attempt to gather this information. The dentist-patient ratios as computed by the Bureau of Economic Research and Statistics of the American Dental Association[7] are prima facie evidence that it is impossible for the dentists who are at present in practice to provide complete dental service for the total population in their respective areas. It behooves all persons engaged in programs of dental public health to think in terms of unmet dental needs which may either be prevented or treated through community programs. Upon the recognition of this fact will hinge the formulation of the objectives of any program of dental public health.

The attitude of personnel in public health, in the dental profession, and the public will determine, in a large measure, the success of any program of dental public health. The importance of the goals of the program must be clearly understood by all full-time and part-time public health workers. Inasmuch as modern public health has as its purpose the improvement of the health conditions of the community in which it operates, it requires the cooperative action of the persons of the various disciplines within the scope of health service.

In order that there may be a unified program, the personnel in each of the activity areas must be apprised of the primary, or long range goals of the organization of which they are a part. The wholehearted support for a program of dental public health by the non-dental members of the staff of the public health organization will be missing unless they have an understanding of the basic tenets of the practice of dental public health.

Unfortunately there remain a few persons in the professions of public health who do not recognize dental programs as a valid public health activity.

As the result of improved relations, increased understanding, and a broadening of professional outlook such attitudes are on the wane. Dental personnel who are entering public health must re-focus their attention from the individual as a patient to the community as a patient.

The ultimate consummation of almost every program of dental public health occurs in the offices of the private dental practitioner. The sympathetic understanding and support of the private practitioner must be obtained; otherwise the success of the program will be placed in jeopardy.

The attitude of the public must be such that it will accept its responsibility in assisting in bringing about the successful completion of the program.

RESOURCES

The nature of the program to be initiated will depend upon the personnel available, or potentially available, for its operation. The first group which must be considered is that group which includes the dentists and dental hygienists who are already active in the field of public health. It is impossible to ascertain the exact number in this group because of the administrative structure of the organizations operating, or sponsoring the operation of programs of dental public health. No central roster of public health dentists and dental hygienists is maintained. It is necessary, therefore, to seek the information concerning these professions from various divergent sources.

It could be said that every dentist and dental hygienist who is rendering service to the public is active in public health for they are improving the health of the community. However, the American Dental Association lists 157 members for the year 1955 who are classified as public health dentists.[8] The United States Public Health Service report of local personnel resources for the year 1952[11] reported that at the local level there was a total of 37,036 persons in all categories employed by official health agencies. Of the total there were 234 dentists and 388 dental hygienists. In addition to the official health agencies there were 8,695 persons employed in full-time health activities by other official agencies, such as departments of education and departments of welfare. There were 122 dentists and 383 dental hygienists engaged in these programs. It may be calculated that as of December 31, 1952, there were approximately 356 dentists and 771 dental hygienists who were actively engaged in programs of public health dentistry. The information contained in the publication was derived from the reports of the various full-time health units receiving federal assistance, and from the full-time units receiving no assistance but wishing to report nevertheless. The percentage of nonreporting units amounted to slightly less than five per cent.

The importance of cooperative action in programs of dental public health cannot be over-emphasized. The complexity of the programs requires that persons of other than the dental profession have a significant responsibility in helping to reach the goals being sought through the program. Dental public health in its broadest scope cuts across the areas of activity and interest of every other discipline of public health. While in most instances the dental personnel are the only members of the official public health staff who will be

devoting their total working time to programs of dental public health, the potential assistance of the other professions must not be overlooked. Each of the professions in public health has contributed some of its members to dental programs. The nurses, health educators, engineers, and laboratory personnel have been utilized most often. On December 31, 1952, there were some 12,492 nurses, 272 health educators, 407 engineers, and 1,301 laboratory personnel employed in local health organizations.[11] Combining the approximate total of dentists and dental hygienists in full-time public health with the members of the other professions employed in local health units, it may be assumed that on December 31, 1952, there were some 15,599 full-time public health personnel who were available, or potentially available, for programs of dental public health.

"Every act performed for the promotion of public health involves an expenditure of money, whether it be for supplies, for transportation, or for the salaries of personnel. In fact, the very nature and extensiveness of the public health program is determined in the final analysis by the amount of funds available for its conduct."[12]

There are three major sources of funds for the operation of programs of dental public health. The sources are the agencies of the federal government having an interest in health, state agencies having similar interests, and local agencies.

Federal funds for the promotion of public health come from two separate but related functional units of the Department of Health, Education, and Welfare. They are the United States Public Health Service and the Children's Bureau.

There has never been a categorical grant of funds from either the Public Health Service or the Children's Bureau for the initiation or conduct of programs of dental public health. The federal funds which have been used for dental programs have been, for the most part, derived from the General Health grant to the states or territories, or from some other categorical grant for programs having dental implications. The Children's Bureau provides two grants-in-aid to the state from which funds may be derived for the operation of dental programs; the grants are for maternal and child health and services for crippled children. There are four grants from the Public Health Service which have dental implications. The first is the grant for "Assistance to States, General Health," the others are cancer teaching grants, research grants, and training grants.[13]

State and local appropriations for programs of dental public health may be either categorical or as a part of general health funds. The position of the dental unit in the administrative hierarchy oftentimes determines the ease or difficulty with which funds are obtained.

The nature of the program will determine the physical resources which must be available, or potentially available for its implementation. Physical resources includes the equipment, materials, space, and transportation necessary for the operation of the program. The requirements will vary with the program, and often the requirements will change as the program progresses. Programs of

dental public health which are primarily educational will require printed materials, posters, displays, films, and other informational devices. In addition there must be a consideration of the office space requirements of the program. Included must be an appraisal of the space available, the telephone service, the utilities, and the custodial services available. It may be pointed out that no matter what the nature of the program, there will be a space and "house-keeping" aspect which must be considered and resolved in order that the program may operate.

Those programs in which dental care is to be provided will require dental equipment in addition to the health educational material and the space requirements. There are several methods by which the necessary equipment may be acquired. Official agencies may purchase dental equipment through regular budgetary channels. Another method is through the cooperative efforts of either official or non-official agencies, or through the combined efforts of official and non-official agencies.

Dental operatory equipment has been recommended to be included in the facilities constructed under the federal Hospital and Medical Facilities Survey and Construction Act. The modification of the Act to include diagnostic and treatment facilities has renewed interest in the dental aspects of the program. It has been proposed that mobile dental clinic equipment be included in the facilities of the diagnostic and treatment centers. The office of the program director offered the following opinion:

> "We find no basis in the Act or Regulations for approving a 'mobile' diagnostic or diagnostic and treatment unit as an eligible 'project' under Part C or Part G of the Act. It might be possible, however, to consider such a unit as initial equipment for an approvable project and to include its cost as eligible for federal participation. Any such request would, of course, have to be considered in relation to the facility planned and it would have to be demonstrated that the program of the facility justified the inclusion of such a mobile unit as initial equipment necessary for the operation of the facility."[6]

Programs of dental caries prevention through fluoridation of community water supplies must include a consideration of the initial cost of the fluoridating equipment as well as consideration of the cost of installation and operation of the feeders.

DISCUSSION

Unlike some of the other diseases, there is no national voluntary organization dedicated to the eradication of the dental diseases. There are professional organizations, official health agencies, and a few civic organizations such as the Pilot Club which have been active in programs of dental public health for many years, but the magnitude of the problem appears to be undiminished in spite of all the efforts which have been expended. It is true that the advent of fluoridation of the community water supplies and the topical applications of sodium fluoride solution to the teeth of children in selected age groups have

revealed a significant reduction in the incidence of dental caries, as well as an attendant reduction in the conditions which are normally sequlae of untreated dental caries. It is also true, however, that there has been demonstrated no concomitant reduction in the prevalence or incidence of periodontal disease, malocclusion, or any of the other dental pathoses which are not directly the result of the carious process. As discouraging as this fact may be, it does not disparage the work which has been done in behalf of improving the dental health of the nation. The fact just emphasizes the immensity of the problem and the meager force which has undertaken the destruction of dental disease as a blight on the public's health. The weapons of education, prevention, and remediation are the weapons of choice in the battle against dental disease, but their effectiveness is directly proportional to the resources utilized in the operation of the program.

How, then, may the programs be made more effective? The answer lies in the realization that in every community there are usually many untapped sources of support and assistance for programs of dental public health. It is the responsibility of those persons who must organize and operate a program of dental public health to efficiently utilize the resources at hand in their efforts to locate and incorporate into the program undetected resources which will afford the organization of a truly comprehensive program--a program of greater breadth and depth, and thus a program which has the assurance of greater effectiveness.

Undetected sources of support and assistance for programs of dental public health are usually found in the civic groups and organizations in the community. Almost without exception these civic groups have as one of their primary purposes the promotion of better health for the community. Oftentimes these interests in health are directed toward some particular disease or some complex of similar disease entities. It may be erroneously assumed that a stated interest in the promotion of a program for the reduction of the effects of some particular disease precludes an interest, or the possibility of stimulating an interest in the problems of dental public health. The near universitality of dental caries will assist in securing sympathetic attention to any proposal for the effective reduction of the incidence of dental caries and the other dental diseases. Community health education can be effective in stimulating the people of the community to think in terms of promoting a program of community dental health. The thinking of the public health and professional groups and organizations must be similarly oriented in order that there will be a minimum of lost motion between the upsurge of interest in such a program and the actual initiation of the program.

A resource which is often completely overlooked or poorly utilized is the resource of the dental personnel in practice in the community. The personnel of dental public health have been shown to be inadequate in number to operate a comprehensive dental program. In spite of the protestations evoked by this statement, it is nevertheless a fact that the magnitude of the dental health problem has not decreased significantly since the first program of dental public health was begun. It would appear then that the combined and coordinated efforts of all the dental personnel in a community would be more effective in overcoming the problem than the desultory manner of practice usually seen at this time. The coordination of the rugged individualists, the dental personnel,

is a thankless task, but the results will more than justify the discomfiture resulting from the effort.

The promotion, initiation, and operation of a program of dental public health offers a constant challenge to the proponents of the program. A factor which ordinarily may or may not be envisioned as a resource is "know-how." The sum of technical knowledge and experience and administrative ability may be characterized as "know-how." To be truly effective, however, "know-how" must be tempered with common sense. Inasmuch as each community is similar to, yet differs from, all other communities, it follows then, that each community dental health program will be similar to, yet differ from, all other such programs. Unfortunately there is no set pattern to be followed in the establishment or operation of a program of dental public health. The ability to ferret out undiscovered resources and the "know-how" of integrating the heterogeneous groups and individuals into a functioning organization sponsoring and operating a program of dental public health is the mark of a successful public health administrator. Thus the determination of the short- and long-term objectives is dependent upon the detection, evaluation, selection, and utilization of the resources which are available or potentially available for the operation of a program of dental public health in the community.

SUMMARY

In summary then:

1. The systematic analysis of the resources available or potentially available in the community will determine the objective of the program of dental public health to be initiated.

2. The resource of personnel will include all of the professional and civic groups and individuals having an interest in improving the health of the community by improving the dental health of the population.

3. The number of dental personnel who are already in practice is insufficient to meet all of the accumulated or the incremental dental needs. Therefore, a program of prevention is essential if inroads are to be made in the effects of dental disease.

4. The financial and physical resources are dependent upon several factors which have not been elaborated upon, except to indicate the possible sources of these factors.

5. There is a constant challenge before the administrator of a program of dental public health to seek out undetected resources and to integrate them with the known resources in order that the <u>comprehensive objectives</u> of the program may be realized at an earlier date and with minimum effort.

CONCLUSIONS:

1. The dental diseases constitute one of the most universal health hazards which harasses the population of the world.

2. Remediation alone has not been effective in controlling the prevalence or the incidence of the dental diseases.

3. Effective control is dependent upon programs of education and prevention as well as remediation.

4. The community program of dental public health is a device which has been proven to be effective in reducing the ravages of the dental diseases.

5. Successful community programs of dental public health depend upon the detection and the efficient utilization of the resources available or potentially available in the community.

6. An improvement in the dental health of a community will result in a concomitant improvement in the general health of the population.

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FLUORIDES AND DENTAL CARIES IN IDAHO:
I. CARIES EXPERIENCE AMONG CHILDREN IN 25 COMMUNITIES

by

Wesley O. Young, D.M.D., M.P.H.*

As early as 1928, it was noted that the presence of fluorides in community water supplies had a marked effect on the prevalence of dental decay. By 1940 a series of studies had definitively established the relationship between the fluoride content of the drinking water and dental caries experience. Since that time many studies have confirmed and extended the findings of the early fluoride investigators so that the role of fluorides in the prevention of dental caries is now an accepted scientific fact.

Fluorides occur very frequently in Idaho, particularly in the southern areas of the State. In fact only 52 of the more than 200 public water supplies in the State are completely deficient in fluorides (Table 1). Twenty-seven percent of those served by communal water systems live in communities where the water contains fluorides in an amount considered adequate for the partial prevention of dental decay (roughly from one to two parts of fluorine per million parts of water). More than half of the residents supplied by public water supplies in the State use water containing at least 0.4 ppm of fluorides.

It is obvious that any attempt to assess the problem of dental caries in Idaho must take into account the varying fluoride content of waters throughout the State. This is one of the reasons why dental examinations of school children have frequently been used to obtain information upon which to develop plans for improving oral health conditions. Within recent

Table I. Fluoride content of community water supplies in Idaho.

Fluoride content (in ppm)	Number of Communities	1950 Population	
		Number	Percent
0	52	70,845	21.4
0.1 - 0.3	64	83,908	25.4
0.4 - 0.6	27	72,247	21.9
0.7 - 1.0	10	10,538	3.2
1.0 - 2.0*	26	89,170	27.0
Above 2.0	4	462	0.1
Unknown	19	3,314	1.0
All Communities	202	330,484	100.0

* Including communities with controlled fluoridation.

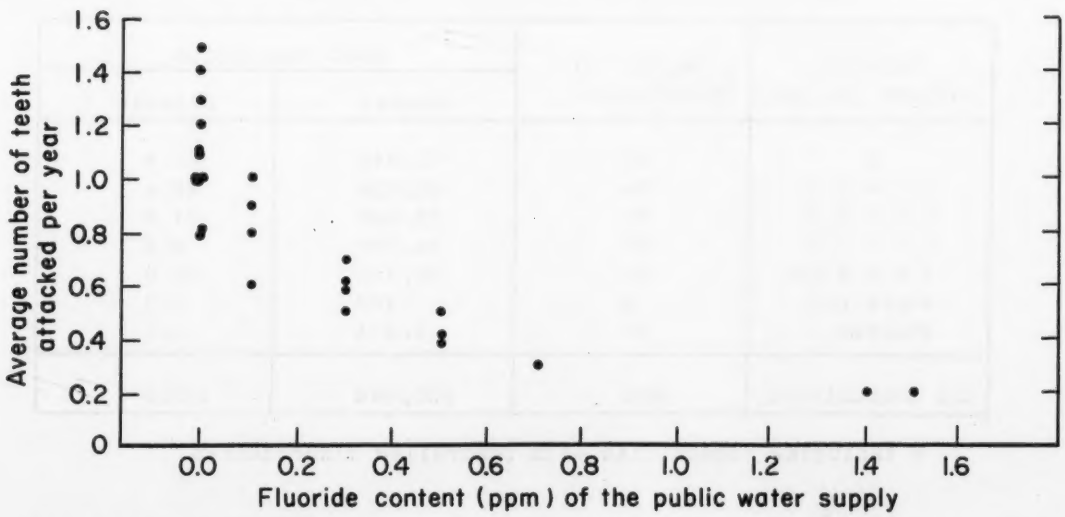
*Director, Division of Dental Health, Idaho State Board of Health, Boise, Idaho.

years, 19,603 Idaho children have been examined in 25 communities for this purpose. Since the fluoride concentrations in these areas have varied considerably, an analysis of the examination findings makes it possible to summarize the dental decay experience throughout the State.

Since carious lesions do not heal spontaneously, an examination of the mouth reveals a practically complete history of the caries experience of the permanent teeth. Once a tooth has been attacked by dental decay the evidence remains in the mouth, either as a decayed tooth, as an extracted tooth, or as a filled tooth. For this reason it is possible to summarize oral examination findings according to the number of decayed, missing and filled (DMF) teeth found. Since the number of DMF permanent teeth rises fairly consistently with age (as new D teeth are added to the already existing DMF teeth) it is necessary to make comparisons age specific.

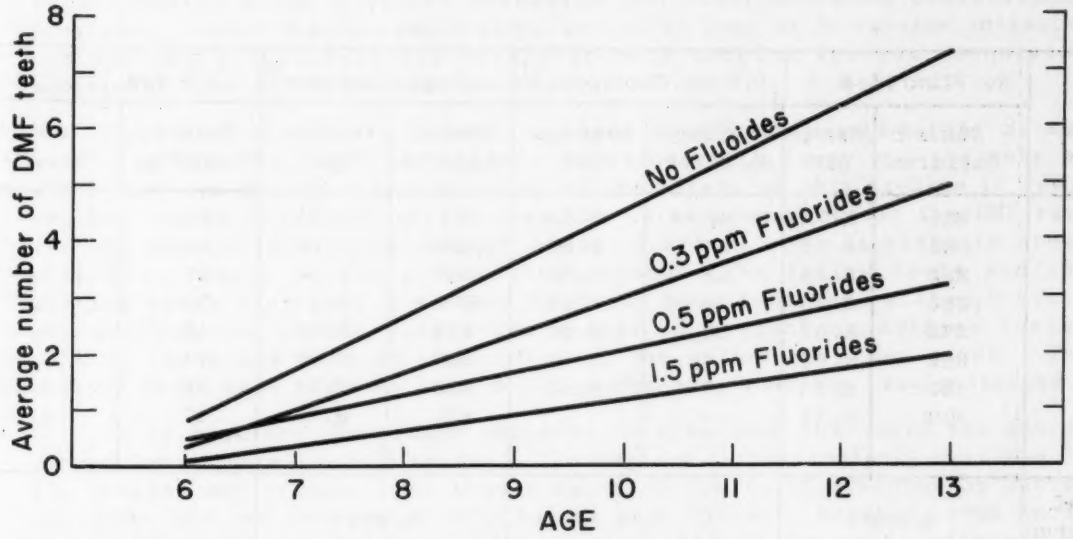
The increase in the DMF rate from one age to another represents roughly the amount of decay occurring during the period of a year. The annual increment is a convenient way to summarize the caries experience of an entire population. In Figure 1, the average number of permanent teeth attacked per year in 25 Idaho communities has been plotted against the fluoride concentration of the public water supplies. This graph shows clearly the role that fluorides play in reducing the attack of dental caries. In the eleven cities that are completely deficient in fluorides, the rate ranges from 0.8 to 1.5 teeth attacked by caries every year. Where the water supply contains half the recommended minimum fluoride concentration

Figure I.
AVERAGE NUMBER OF PERMANENT TEETH ATTACKED BY CARIES PER YEAR AND THE FLUORIDE CONTENT OF THE WATER SUPPLY IN 25 IDAHO CITIES



Source: Table IV

Figure 2.
AVERAGE NUMBER OF DMF TEETH AMONG CONTINUOUS-RESIDENT IDAHO CHILDREN IN AREAS WITH DIFFERENT FLUORIDE CONCENTRATIONS



Source: Computed from Table II by method of least squares

(0.5 ppm) the children are experiencing only about one half of a decayed tooth per year. The full effect of fluorides is seen in the two cities (Nampa and St. Anthony) where the concentration of fluorides fall within the optimum range. Children living in these areas are experiencing only 0.2 new decayed teeth every year. Out of 100 children in Nampa or St. Anthony only 20 need expect to have a decayed tooth during the period of a year. In the communities where there are no fluorides, however, all of the 100 children must expect to have at least one decayed tooth during the same period.

The variation in dental decay experience can perhaps be seen more clearly in an examination of the DMF rates in 20 Idaho cities where the water supplies contain no fluorides, 0.3 ppm of fluorides, 0.5 ppm of fluorides, and 1.5 ppm of fluorides (Figure 2). In the fluoride-deficient cities the children have had almost one permanent tooth attacked by caries by six years of age. By the time these children are 13 years old they have more than eight DMF teeth. The DMF rates build up less rapidly in the areas with 0.5 ppm of fluorides and at age 13 the children have experienced only 3.2 DMF teeth. In the cities with optimum fluoride water supplies the six-year-old children have only 0.15 DMF teeth, and the thirteen-year-olds have experienced only slightly more than two teeth attacked by caries.

These data emphasize the regular and recurring nature of dental decay. Although the rate may vary, an individual must anticipate regular, and usually frequent, attacks of the disease. When the lesions occurring in the

Table II. Average number of DMF teeth among 5,185 continuous-resident children in 20 Idaho communities with water supplies containing different concentrations of fluorides.

Age	No Fluorides [1]		0.3 ppm Fluorides [2]		0.5 ppm Fluorides [3]		1.5 ppm Fluorides [4]	
	Number Children	Average DMF	Number Children	Average DMF	Number Children	Average DMF	Number Children	Average DMF
6	261	0.79	45	0.62	383	0.36	129	0.15
7	323	1.72	54	1.26	434	0.76	90	0.36
8	302	2.65	43	1.72	382	1.48	97	0.68
9	253	3.45	40	1.88	374	1.71	70	0.97
10	272	5.07	32	2.66	313	2.00	46	1.43
11	252	4.85	44	2.91	285	2.26	71	1.15
12	129	5.55	17	5.41	112	2.79	56	1.59
13	109	8.13	-	-	120	3.22	47	2.09
Total Children	1,901		275		2,403		606	

1/ Communities included: Coeur d'Alene (1951), Downey, Lewiston Orchards, McCall, Oakley, Orofino, Preston, St. Maries, Sandpoint, Wallace and Lewiston (1947).

2/ Communities included: Arco, Meridian, Moscow, and Shoshone.

3/ Communities included: Boise, Caldwell, and Twin Falls (1951).

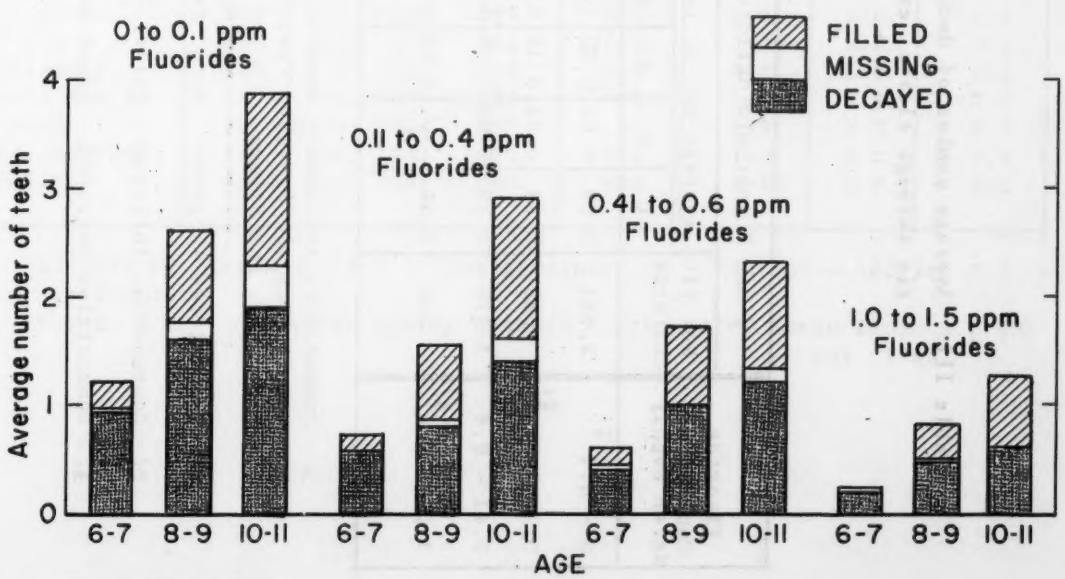
4/ Communities included: Nampa and St. Anthony.

individual are multiplied for a large population group, the magnitude of the problem of providing care is obvious. This problem is compounded by the peculiar nature of dental disease. Most diseases are self-resolving even without successful treatment--ending either in spontaneous recovery, residual disability or death. Dental caries, however, does not heal spontaneously or become dormant, but inevitably leaves the individual with a lesion which requires expensive and time-consuming professional treatment. Since the disease remains active as long as it remains untreated, neglect and procrastination result in more complex lesions, requiring additional time and skill for treatment.

Oral neglect is, in itself, a major health problem because of the resulting time lag between the rate at which teeth decay and the rate at which they are filled. An indication of the extent of this problem in Idaho can be seen in Figure 3, which shows the three components of the DMF rate for all the children, six through eleven years of age, examined in areas with four ranges of fluoride concentration. The filled teeth and the missing teeth represent treatment that has been received, although since extractions are almost always the result of neglecting decayed teeth, missing teeth are also an indication of the extent of unmet needs. The decayed teeth show the extent to which needed treatment has been postponed.

It is apparent that Idaho children receive less than half the dental corrective service that is needed. The neglect is particularly critical in the younger age groups, less than a third of the teeth attacked by caries among the six and seven-year-olds having been filled. However, even among the children 10 and 11 years old less than half of the teeth affected by decay have received treatment.

Figure 3.
AVERAGE NUMBER OF DMF TEETH AMONG 15,906 IDAHO CHILDREN LIVING IN AREAS OF DIFFERENT FLUORIDE CONCENTRATION



Source: Table III

Table III: Average number of decayed, missing, and filled permanent teeth among all children, six through eleven, examined in 24 Idaho communities.

Fluoride Content of Water Supply	6 and 7 year old children					8 and 9 year old children					10 and 11 year old children				
	No. of Children	Average No. of teeth				No. of Children	Average No. of teeth				No. of Children	Average No. of teeth			
		D	M	F	DMF		D	M	F	DMF		D	M	F	DMF
0 - 0.1 1/	2,621	0.95	0.02	0.20	1.17	2,915	1.62	0.15	0.85	2.62	2,678	1.93	.38	1.56	3.87
0.11 - 0.4 2/	388	0.60	0.01	0.16	0.77	462	0.80	0.06	0.70	1.56	412	1.40	0.21	1.38	2.89
0.41 - 0.6 3/	1,819	0.43	0.02	0.18	0.63	2,172	1.01	0.05	0.63	1.69	1,936	1.22	0.12	0.99	2.33
1.0 - 1.5 4/	219	0.18	-	0.05	0.23	167	0.47	0.02	0.31	0.80	117	0.60	0.07	0.60	1.27

1/ Communities included: Coeur d'Alene (1951), Downey, Lewiston (1947), Lewiston Orchards, McCall, Oakley, Orofino, Preston, St. Maries, Sandpoint, Wallace, Alameda, Montpelier, Pocatello, and Salmon.

2/ Communities included: Arco, Meridian, Moscow, and Shoshone.

3/ Communities included: Boise, Caldwell, and Twin Falls.

4/ Communities included: Nampa and St. Anthony.

Table IV. Community dental surveys conducted in Idaho: 1951 - 1955

Community	F Cont. (ppm)	Survey Date	Number Examined		Examined	1/ Method	Incidence (DMF teeth) per year
			Total	Cont. Res.			
Coeur d'Alene	0	Oct. '51	346	346	1-8	K.P.	1.3
Downey	0	May '55	206	57		R.C.	1.5
Lewiston	0	Nov. '47	352	352	1-12	K.	1.4
Lewiston Orchards	0	March '52	554	187	1-7	R.C.	0.8
McCall	0	Dec. '51	376	78	1-12	R.C.	1.0
Oakley	0	Nov. '51	351	166	1-12	R.C.	1.1
Orofino	0	Nov. '54	439	196	1-6	R.C.	0.8
Preston	0	April '52	662	313	1-9	R.C.	1.2
St. Maries	0	May '54	448	167	1-12	R.C.	1.0
Sandpoint	0	Dec. '52	760	141	1-6	R.C.	1.0
Wallace	0	Nov. '54	504	151	1-7	R.C.	1.1
Alameda	0.1	Oct. '52	482	321	1-6	R.C.	0.6
Montpelier	0.1	March '53	495	232	1-8	R.C.	1.0
Pocatello	0.1	Oct. '52	3,360	1,451	1-6	R.C.	0.8
Salmon	0.1	May '52	588	76	1-9	R.C.	0.9
Arco	0.3	May '52	184	33	1-8	R.C.	0.7
Meridian	0.3	March '52	322	39	1-8	R.C.	0.6
Moscow	0.3	Feb. '52	624	118	1-7	R.C.	0.5
Shoshone	0.3	Nov. '54	365	105	1-8	R.C.	0.6
Boise	0.5	Fall '51	7,282	1,672	1-12	R.C.	0.4
Caldwell	0.5	Nov. '52	903	392	1-6	R.C.	0.5
Twin Falls	0.5	Oct. '51	2,125	572	1-6	R.C.	0.4
Parma	0.7	March '52	277	30	1-8	R.C.	0.3
St. Anthony	1.4	Nov. '52	101	101	1-6	R.C.	0.2
Nampa	1.5	Nov. '51	562	562	1-10	K.P.	0.2

1/ Examination methods: K.P. - Klein-Palmer; K - Knutson's index; R.C. - Rapid-Count.
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Here again, however, the effect of fluorides is evident. Although the proportion of treatment received is fairly constant, the actual size of the backlog differs markedly with the fluoride content of the water. In the areas of optimum fluoride concentration, the 10 and 11-year olds have 0.6 filled teeth, and they need fillings in an additional 0.6 teeth. The children of the same age in the area of severe fluoride deficiency, however, have one and a half filled teeth, but need almost two additional fillings. The large backlog of unmet needs in the fluoride deficient areas is also reflected in the rates of tooth loss. The 10 and 11-year-olds in these areas have lost 40 permanent teeth per 100 children, while in the optimum fluoride areas only 7 teeth per 100 children have been extracted.

Although the decay experience of Idaho children illustrates the magnitude of the problem of dental caries, it shows only a portion of the total need. Tooth decay goes on at almost the same pace throughout life and, since oral neglect continues to be common, the backlog of accumulated needs reaches staggering proportions. It is estimated, for example, that 138,000,000 fillings are needed to restore the teeth that decay each year in the United States. Moreover, more than 700,000,000 fillings would be needed to take care of the backlogs of needs and restore neglected mouths to a healthy condition.[1/]

The examination findings in 25 Idaho cities clearly emphasize the tremendous rate that fluorides play in reducing the rate at which teeth decay and cutting the size of the accumulated backlog of need. Many of the residents of Idaho are fortunate enough to live in areas where their drinking water, passing over fluoride-bearing rocks, has picked up enough of the compound to assure the proper concentrations of fluorides. Other areas, not so well situated, have corrected their deficiency by adding the fluoride compound to the water in controlled amounts by machinery--a procedure commonly known as controlled fluoridation. Today, more than a **fourth** of those who use community water supplies in Idaho have available drinking water which carries the optimum amount of fluorides. Eventually, probably all communities with a fluoride-deficient water supply will correct that deficiency. Until that time, however, many Idaho citizens will continue to suffer an abnormally high attack of mankind's most prevalent disease--dental decay.

From: Newsletter, Idaho State Dental Association, February, 1956.

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FLUORIDES AND DENTAL CARIES IN IDAHO: II. THE EFFECT OF REDUCED CARIES ATTACK ON UNMET TREATMENT NEEDS

by

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In the areas of Idaho where no fluorides occur in the water supplies dental decay is almost universal. The teeth begin to decay soon after they erupt and the number of teeth attacked increases dramatically with age. It is not unusual, in these areas, to find that 100 percent of the children have been affected by dental caries by the time they have reached adolescence. The average Idaho child living in a fluoride-deficient area experiences somewhat more than one new decayed permanent tooth each year, and by the time he is 18 years of age, has approximately 14 or 15 decayed, missing, or filled permanent teeth. 1/

The rapid rate of dental decay is complicated by widespread neglect. Examinations of Idaho children have shown that less than half the total needs for fillings and extractions are being met. Generally, for every 100 permanent teeth that start to decay in the mouths of Idaho children during a year, less than 50 receive proper treatment. This means that dental neglect is, in itself, a major health problem. Unlike most diseases, dental decay seldom, if ever, heals spontaneously. Its progress can be checked only by expensive and time-consuming professional care. If treatment is not provided promptly, the progression of the disease makes the provision of care increasingly complex.

Because of their magnitude and complexity, dental diseases rank as a major health problem. The dental profession has realized for many years that oral health conditions can best be improved by the application of preventive measures. For this reason, dental research has concentrated on developing procedures which would at least partially prevent the occurrence of dental decay and other oral diseases. The development of controlled fluoridation of community water supplies for the prevention of dental decay has proven to be the most successful product of the dental research activities of the past 50 years. Fluoridation is effective in reducing the attack of dental caries regardless of the individual habits of the residents of the community in which it is applied; it is safe and inexpensive; and its benefits eventually reach the entire population of the area served.

A clear indication of the benefits of fluoridation was given by a recent survey of children in Coeur d'Alene, Idaho. The water supply in Coeur d'Alene was completely deficient in fluorides until the institution of controlled fluoridation in January, 1952. Complete dental examinations of the continuous resident children were conducted by Pelton and Elsasser 2/ in

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1/ Young, W. O. Fluorides and dental caries in Idaho: I. Caries experience among children in 25 communities. Newsletter, Idaho S. Dent. A., 5:4, February, 1956.

2/ Pelton, W. J., and Elsasser, W. A. Studies of dentofacial morphology: III. The role of dental caries in the etiology of malocclusion. Am. Dent. A. J., 46:648, June, 1953.

November, 1951, and by Walters 3/ in January, 1955--the latter examinations representing the results of three years of controlled fluoridation.

In 1955, the six-year-old Coeur d'Alene children had less than half as many decayed permanent teeth as the children of the same age had before the start of the fluoridation program. The seven-year-old children had experienced a reduction of 45 percent, and the eight-year-olds 41 percent. The fluoridation program also brought about a striking increase in the number of children who escaped the attack of dental decay. In 1952 only 65 percent of the six-year-old children had not had at least one tooth attacked by caries but in 1955 84 percent of the children were caries-free. The number of seven-year-old children without a single decayed permanent tooth increased from 26 to 50 percent during the period of fluoridation. In the eight-year-old group, it increased from 6 to 35 percent, and in the nine-year-old group, from 2 to 14 percent.

As dramatic as these reductions in caries attack appear to be, they do not tell the complete story. The overall measure of the prevalence of dental decay (the DMF rate) is a summation of the number of untreated decayed teeth (D), the number of teeth that have been extracted due to caries (M), and the number of teeth that have been filled (F). An analysis of the components of the decay rate gives an even clearer indication of the benefits of controlled fluoridation.

Coeur d'Alene children, in 1955, had received approximately the same number of fillings in their permanent teeth as had the children in 1951. In fact, in four out of the first seven age groups examined, the children had received more fillings in 1955 than had the children seen in 1951. Consequently, during the period of fluoridation a sharp drop occurred in the number of untreated carious teeth. In 1951, the average eight-year-old had a little more than one permanent tooth that had been filled but had almost two decayed teeth requiring treatment. In 1955, the children of the same age had an average of almost one filled tooth but had only one untreated decayed tooth. The average 10-year-old child examined had 1.83 filled teeth in 1951, and 1.85 in 1955. The 10-year-old children examined in 1951, however, had 2.79 untreated decayed teeth, while the children of the same age in 1955 had only 1.26 permanent teeth requiring treatment. In general, it may be said that the dentists in Coeur d'Alene continued to place about the same number of fillings during the three-year period, but since the attack of dental caries was sharply reduced, the backlog of unmet treatment needs in the younger school-age children was cut in half (Figure 1). This experience is not unique in Coeur d'Alene but has occurred in other areas where fluoridation programs have been instituted.

In light of the sharp reduction in unmet treatment needs, it is not surprising that a reduction in the number of permanent teeth extracted has also occurred. Extracted permanent teeth in the younger ages represent the end product of neglect and lack of dental care. In 1951, for every 100 eight-year-old children examined, 50 extracted permanent teeth were found. In 1955, only one per 100 of the children in this age group had lost a permanent tooth. By the time children were nine years old in 1951, they had lost 144 permanent teeth per 100 children, but at the same age in 1955, only one child in a hundred had an extracted tooth.

3/ Walters, F. J. Preliminary report: Coeur d'Alene dental survey 1955. Boise, Idaho Department of Public Health, 1955. 3 p. processed.

Figure 1.
AVERAGE NUMBER OF DECAYED TEETH
IN COEUR D ALENE IDAHO 1951 AND 1955

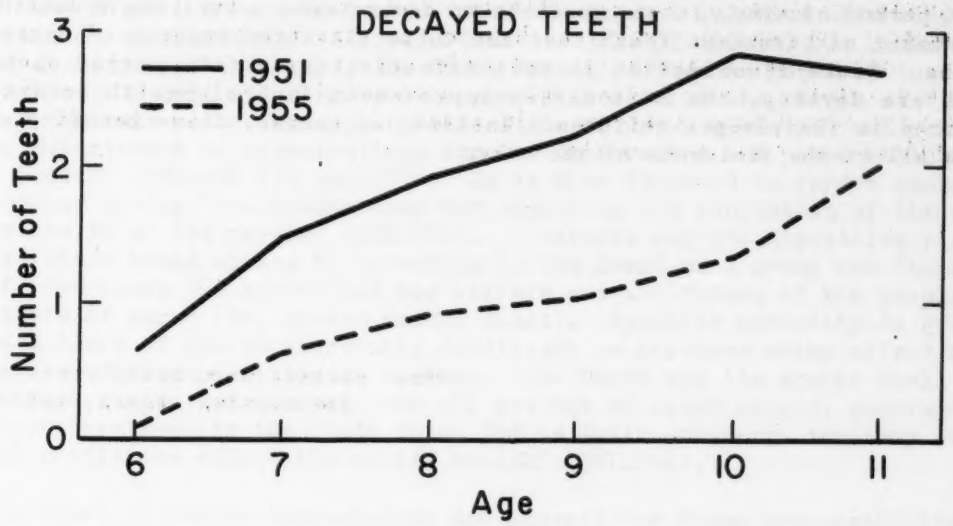
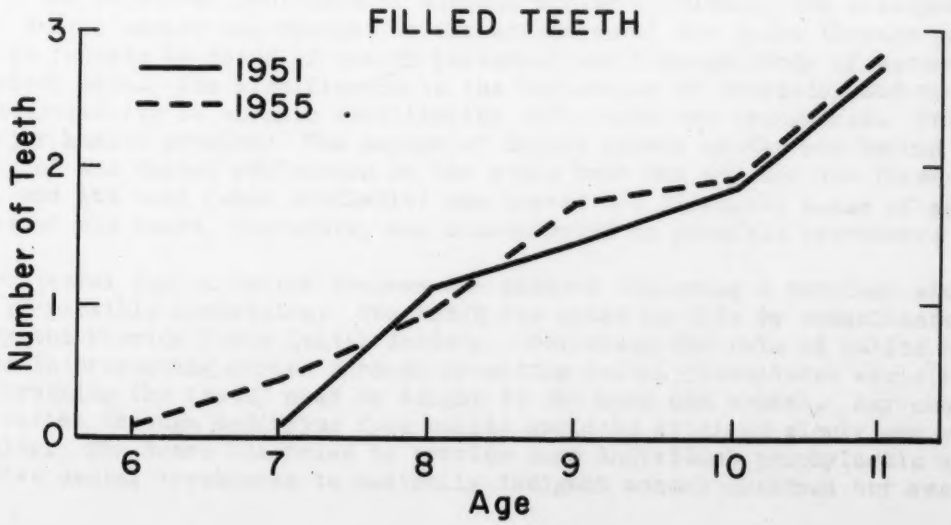


Figure 2.
AVERAGE NUMBER OF FILLED TEETH
IN COEUR D ALENE IDAHO 1951 AND 1955



The results of the three-year fluoridation program in Coeur d'Alene illustrate, again, the vital role that fluorides play in improving oral health conditions. During the three-year period, the presence of optimum amounts of fluorides in the Coeur d'Alene water supply cut the amount of dental decay experienced by the younger children in half. This made it possible for the dentists practicing in the area to reduce the backlog of unmet needs for treatment by almost 50 percent. Consequently, within this short period of time, it was possible to demonstrate a striking reduction in the number of permanent teeth that had to be extracted because of untreated caries. Since fluoridation is most effective during the period when the teeth are forming, the most marked improvement in oral health conditions occurred in the younger children. In time, of course, these benefits would reach all of the residents of the area.

From: Newsletter, Idaho State Dental Association, March, 1956.

STATEMENT OF THE FLORIDA STATE BOARD OF HEALTH ON THE FLUORIDATION OF PUBLIC WATER SUPPLIES FOLLOWING A PUBLIC HEARING ON THE SUBJECT ON AUGUST 20, 1955

BACKGROUND

The State Legislature has directed the Florida State Board of Health to have a broad concern for all conditions which affect the health of the citizens of the state. Its first stated duty is "to formulate general policies affecting the public health of the State" (Florida Statutes 381.031 (1) (a)). Under the general direction of the Board, the State Health Officer is required to enforce rules and regulations relating to "the general health of the people of Florida" and to "cooperate with other appropriate state, county, municipal and private boards, departments or organizations for the improvement and preservation of the public health" (381.051 (3) and (7)). He is also directed to report annually to the Governor giving "recommendations for improving the sanitation of the state and the health of its people" (381.221). A witness for the opposition eloquently stressed these broad duties by appealing to the Board as a group who "hold in the palm of your hands the health and the welfare and the future of the people of this great state of ours" (Dr. Marvin Smith, Miami). Specific authority is given to the State Board of Health concerning conditions or services which affect health and which involve communities as a whole. "The Board and its agents shall have general supervision and control over all systems of water supply, sewerage, refuse and sewage treatment in the state in so far as their adequacy, sanitary and physical conditions affect the public health" (381.261).

The Board of Health acknowledges and accepts the broad responsibility for conditions which affect the general health of the people of Florida, and for its more specific duties in supervising services which affect the health of communities as a whole. It emphasizes that the time has long passed since its sole or major duties were the control of communicable diseases, the improvement of sanitation and the abatement of nuisances. Its aims must include the promotion of health as well as the prevention of disease.

In the fulfilment of its obligations, the Board of Health has given critical study to the relative importance of various health problems. The widespread occurence of dental caries was brought to the attention of the Board through general knowledge reports by Board of Health personnel and through study of extensive statistical data. Its significance in the impairment of nutrition and in increasing susceptibility to chronic debilitating infections was recognized. This clearly was a major health problem. The amount of dental repair needed was beyond the capacity of the dental profession in the state both now and for the foreseeable future, and its cost (when available) was beyond the financial means of many. The interest of the Board, therefore, was concentrated on possible preventive measures.

The Dental Public Health Program was planned following a critical study of a number of possible activities. The Board was aided in this by consultants designated by the Florida State Dental Society. Obviously the role of public health agencies in preventing caries through promoting dental cleanliness would be limited since "brushing the teeth" must be taught in the home and school. Any control of dental caries through modifying food habits would be attained slowly and with difficulty. The Board has tried to provide some individual prophylactic and corrective dental treatments to medically indigent school children but even a

limited staff of dentists could not be recruited and maintained. The continuing effort of health educators, nutritionists and the dentists who could be obtained for public health work did not promise either immediate or effective control of this widespread health problem.

Another possible means of preventing dental caries was brought to light through national studies of the variations in the prevalence of dental defects in different communities. Investigations conducted largely between 1935 and 1945 established that these differences were related to the amount of fluorides in natural waters. In cities and areas with little or no fluorides in the water there was a high prevalence of dental caries, in those with excessive amounts "mottled enamel" tended to occur but in those fortunate communities with an intermediate optimal amount of fluorides there was relatively little dental caries. This suggested a simple approach to dental hygiene through controlling the amount of fluorides in water to that level which provided the best dental health in the residents. There followed the widely publicized research on the effectiveness of adding fluorides where they were deficient in amount. On increasing fluorides to a level believed to be optimal, the same healthful benefits were observed in test communities as in other communities where an equal amount occurred naturally. The evidence at that time indicated that this was a simple, safe and reasonably economical public health approach to the control of dental caries. The dental consultants to the Board of Health recommended that this procedure be given major emphasis in Florida's program of dental public health.

On the basis of evidence then available the Board of Health in 1949 adopted a policy on fluoridation and clarified and expanded this on February 13, 1951. (Appendix A) This provided that when requested and authorized by the responsible governing officials and when the procedure was approved by the local medical and dental societies and the local public health agency the Board would approve fluoridation, provided there was specified expert supervision at the local water plant and provided the amount of fluorides was maintained below a stated amount. The level specified was materially below that occurring naturally in water supplied to Sarasota and some other smaller communities in Florida, and was at the approximate level of the fluorides in Jacksonville's natural public water supply.

Since fluoridation was a new program and since further scientific data on the subject has accumulated, the Board of Health readily agreed to review its policy. A public hearing was authorized and held on August 20, 1955 to allow both the opponents and proponents to present any new, or to reevaluate any old, scientific evidence which might have a bearing on the desirability, effectiveness, or safety of the fluoridation of public water supplies.

THE EVALUATION OF EVIDENCE

The verbal testimony presented at the hearing, the 23 exhibits offered by the opponents and the 77 by the proponents have been studied. Conflicting evidence was examined with particular care. The task of the Board has been to obtain from these varied reports the basic scientific truths which alone can be the secure guide to public health practice.

In evaluating clinical evidence we asked first about the dependability of the diagnoses. Cases considered to be chronic fluorosis, for example, were

described by the opponents. Subjective symptoms were detailed. There was no confirmatory X-ray or laboratory evidence. An outstanding symptom was excessive morning weakness, a subjective reaction which could be due to any one of several causes. The physicians speaking for the proponents differed in the interpretation of findings in these cases. Lacking any supporting evidence to confirm a diagnosis the illnesses in such cases had to be considered as due to undetermined causes. Dependable diagnoses as to cause are of equal importance in dental studies.

The methods of scientific study are well known to those working in this field. A scientific investigation must be objective, without bias and properly "controlled." The validity of evidence presented was judged in accordance with the presence or absence of the above standards. Statements of scientific evidence must be specific also. In considering toxicity, for example, observations have virtually no significance unless the evidence specifies the amount of the agent consumed.

Dr. F. B. Exner, speaking for the opposition declared in his verbal testimony that in the reports of the studies made by the Public Health Service "facts have been warped, misrepresented and even fabricated." He charged that Professor A. P. Black's scientific publications contained "statements carefully designed to deceive." Furthermore, those who have endorsed fluoridation (including America's outstanding bodies of scientists) have perpetuated "what is probably the greatest and most elaborate hoax in history." The Board vigorously disagrees. The Public Health Service research has been acclaimed repeatedly by American physicians, dentists and scientists for its classical design, precise execution and sound conclusions. The Board has secure confidence in the integrity of the scientists concerned, individually and as a group. They note also that the dentists who have participated most actively in "perpetrating" the alleged "hoax" are those who stand to lose economically from the improvement of dental health which they seek to attain.

ABSORPTION, EXCRETION AND DOSAGE OF FLUORIDES

Doctor Exner repeatedly pointed to variation in intake of fluorides due to differences in individual consumption of water, as a major disadvantage of the fluoridation of water supplies. The proponents, however, introduced as evidence detailed data on the distribution of fluorides in food and water, and their absorption and excretion by the body. The amount taken in foods varies with selection. Sea foods, in general, have a high content of fluorides (commonly 4 to 10 ppm*). Meats (as steak, chops, chicken), butter, cheese and bread have a moderate level (commonly 1 - 2 ppm) while fruits and vegetables are variable (commonly less than 1 ppm). The amount taken in water varies with level and consumption. Of the fluorides ingested, a portion is absorbed, the remainder is discharged in the fecal waste. That absorbed is discharged in the urine and sweat. The fluoride level in the urine is closely similar to that in the water consumed. On drinking increased quantities of water, there will be an increased intake of fluorides, but promptly thereafter (within 1 to 3 hours) there will be an increased

* ppm-parts per million

output of both water and fluorides through urine and/or perspiration. Even with an intake of two to three times that provided by an average diet and water with 1 ppm fluorides, the approximate balance of intake and output has been demonstrated by quantitative chemical determinations. Evidence of significant accumulation was obtained only when there was excessive intake. Experimentally "when F (fluoride) levels up to 50 ppm were given in a ration no skeletal changes were found." The Board failed to find any scientific evidence to even suggest that there would be, or had been, any abnormal or undesirable accumulation of fluorides with intake in a general diet and in water with fluorides even substantially above the level recommended for fluoridation.

FLUORIDES AND HEALTH

Every individual every day ingests some fluorides, since they are present in many foods in variable amounts and in water at least in trace quantities. It is acknowledged both by opponents and proponents that in excessive amounts fluorides have undesirable effects. Likewise, the substantial body of scientific evidence on the effect of a deficiency of fluorides in predisposing to dental decay was not challenged by the opponents. The Board, therefore, sought evidence as to the level at which a deficiency or an excess of fluorides was deleterious to health and the level which provided optimal health.

The Board notes the contention that fluorides added to water differ in their effect from those occurring naturally. Since irrespective of source chemically active fluorine occurs in water as free ions, and since one form of fluorine only occurs in nature the Board must agree with the proponents that this claim of a difference between natural and added fluoride has no basis in established scientific knowledge.

Their Effect on Dental Decay.

Two practicing dentists from Jacksonville, one representing the N. E. Florida Dental Society and one designated by the Jacksonville Dental Society, testified for the proponents. The dentists in Jacksonville (whose public water supply is naturally fluoridated with 0.7 to 0.8 ppm) have for comparison the native born children and those of families recently moved to the area from cities whose water contained little or no fluorides. Both dentists stated that the amount of dental caries was obviously less in children who had grown when or where fluoridated water was available as compared with those who had no regular access to such water.

The exhibits of the proponents contained also the results of detailed studies of children growing under these differing conditions. When dental health was related to the amount of fluorides in water it was observed that children and adults in areas with little or no fluorides in water commonly had two to four times as much dental caries as those in areas whose water contained one part per million or more of fluorides. In the United States at least 3,000,000 and probably 4,000,000 people use water naturally containing 0.9 ppm of fluorides or higher. There have been abundant opportunities to compare the dental health in these areas and in those with little or no fluorides in the water. In the opinion of the Board the evidence establishes that the dental health of individuals using water with approximately one part per million of fluorides is clearly superior to that of those using water with little or no fluorides.

According to the proponents, beginning in 1945 an increasing number of cities started to add supplementary fluorides where the amount in water was below the desired level. The results have been critically studied in several. Though the maximum benefits will be evident only when infants (born after fluoridation was started) grow to maturity, still already in city after city the evidence indicates a substantial reduction in dental caries. The same conclusion is indicated on comparing the dental health before and after fluoridation or on studying comparable cities, one with and one without fluoridation. The evidence convinces the Board that dental health is favorably affected either by the use of naturally fluoridated waters or by the supplemental addition of fluorides to community water supplies to the desired level. The accumulating evidence provides sound basis for the belief that the increasing of fluorine from a low level to about one part per million will reduce dental decay by more than 50 per cent. In the studies to date a reduction of 65 and 75 per cent has been attained.

The Board considered the criticism of the statistical measures used by the investigators cited by the proponents. It recognized that the "DMF" (decayed, missing and filled permanent teeth) and the "def" (decayed, extraction indicated and filled deciduous (baby) teeth) add together the evidence of present and past decay. This appeared to them to be a reasonable means of measuring the total amount of decay - and a suitable indication of the relative dental health of a population. The Board would give careful consideration to alternative procedures had they been suggested.

Through findings in routine examination of school children the opponents questioned the validity of findings in the Newburg-Kingston study. They sought to establish that there was no demonstrated benefit from the fluoridation of Newburg's water supply and even that it may have been deleterious. In comparing statistical data the scientist considers first their comparability. To be valid observations must be obtained similarly. The proponents introduced supplementary information stating in detail the different methods used by the schools in obtaining a record of dental defects in these cities. In Kingston no trained dental worker was used. A physician inspected the mouth with the aid only of a tongue blade. Only obvious gross defects would be noted. In Newburg, however, a trained dental hygienist was employed for the school examinations and these she did with the use of a dental probe and mirror. Minor defects would be found and reported. Further, these highly routine general observations of school children differed markedly from the special dental examinations performed in these cities by the research team of dental scientists who used X-ray as well as complete dental observations. The latter, according to evidence presented, used every possible precaution to assure comparability of findings. To seek to refute these research dental observations obtained with the use of X-ray by the notations of the hurried observations of a school physician who glances at the teeth using only a tongue blade or even to compare the latter with the findings of a dental hygienist using dental instruments; suggests to the Board a complete lack of appreciation of the most basic principles in statistics and research.

In verbal testimony concerning Kingston the proponents presented convincing evidence as to the opinion in that "control" city. After the completion of the ten year study period Kingston immediately took the necessary steps to begin the fluoridation of its own water supply.

The Board is satisfied that the valid evidence indicates that fluorides at the level recommended for fluoridation have a marked effect in controlling dental decay.

Their Effect on General Health.

The proponents presented evidence from a "Long-Term Medical Study" of the health of children using fluoridated water (Newburg) as compared with that in a nearby city with little fluorine in the water (Kingston). The findings failed to reveal that fluoridated water had either an adverse or a beneficial effect on general health.

Death rates were offered also to assess the possible effect of life-long exposure to fluorine at the level found in fluoridated waters or higher. Mortality data were determined for "paired cities", one with fluorine of 0.7 ppm or more and the other with 0.25 ppm or less. The total population of the cities whose water had a high fluorine content was 892,625 and of the control cities with low fluorine content 1,297,500. The average death rate for the years 1949 and 1950 were given. The findings were as follows:

Cause of Death	Deaths per 100,000 in Cities With High fluorides	Low fluorides
Heart disease	354.8	357.4
Cancer	135.4	139.1
Intracranial lesions	111.5	104.8
Nephritis	21.9	26.7
Cirrhosis of liver	6.6	8.2

From this evidence it was concluded that there was no statistically significant difference in the mortality rates in the cities with high and with low fluorides.

The Board considers these findings particularly conclusive since in one fourth of the cities with high fluorides, the level was above 1.4 ppm and in one of these above 2.6 ppm. Thus even with fluoride levels commonly above the maximum allowed in fluoridated waters there was no evidence of any unfavorable effect on general health.

Possible Harmful Effects of Fluorides.

The opponents emphasized the toxic manifestations of fluorides but consistently failed to indicate the amount required to produce ill effects. The proponents, however, introduced evidence that such symptoms occurred only with excessive intake, often in connection with the commercial production of phosphates. With heavy exposure, the latter, as is true of fluorides, are damaging to plants and animals but phosphates are known to be essential for the normal growth and development of both. The proponents emphasized that many substances needed by the body are harmful when taken to excess. Findings of this type for fluorides would be in line with other observations in nature.

The Board has reviewed critically the evidence concerning dosages. It found it was mechanically impossible for any accident in a water treatment plant to

provide the high concentrations which could lead to an acute illness due to fluorides. In animals, growth retardation has been demonstrated on feeding food and water with 100 to 1000 ppm fluorides. A search of the literature failed to reveal evidence of any observed unfavorable effect on growth of children as a result of the excessive intake of fluorides found naturally in some waters. Skeletal changes in adults resulted only on prolonged use of 8 to 20 times the recommended controlled intake in water and these changes did not noticeably affect their general health. Mottled enamel was the most sensitive indication of excessive ingestion of fluorides. Dentists speaking for the proponents stated that mottled enamel of varying types arises from different causes. Slight differences in pigmentation of well-formed teeth can be detected only by the experienced eye of the dentist; this questionable or mild mottling, whatever its cause, has no significance esthetically or to the health of the individual. The moderate and severe mottling with obvious change in the structure and color of the enamel began to be found only when the water had 2 to 5 times the recommended controlled level. The Board found no evidence of mottling of this type due to fluorides in individuals who had used throughout childhood a water supply containing approximately 1 ppm fluorides.

They found well substantiated evidence of the beneficial effect on dental health but could find no data to suggest any unfavorable effect on general health from water with fluorides at this level.

The Board has reviewed the clinical evidence of the cases of chronic fluorosis reported by Drs. Smith and Waldbott. Diagnoses were unsupported by confirmatory laboratory findings. It was stated by Doctor Waldbott that chemical analysis for fluorides were not done since chronic fluorosis could occur in those with little or much fluorides, an observation which does not conform with the general knowledge of inorganic poisons. There was no evidence that the diagnoses of chronic fluorosis represented the concensus of a group of physicians. Since the subjective symptoms could arise from a variety of causes, the Board must agree with the physicians speaking for the proponents that the causes of these reported illnesses were undetermined. They note also the testimony of Dr. T. Z. Cason that throughout his career (which was long and distinguished) as a specialist in internal medicine in Jacksonville, (a city with 0.7 - 0.8 ppm fluorides occurring naturally in the water) he has never seen a case in which a diagnosis of chronic fluorosis was warranted.

Unfavorable symptoms following the announced beginning of fluoridation were reported. The evidence offered by the proponents strongly suggest that these were due to other than fluorides. Repeatedly cities have added fluorides before the announced beginning of fluoridation, but complaints came only after the published beginning date. Others for technical or other reasons delayed the beginning of fluoridation, and complaints came when the public was receiving unmodified water but believed that fluorides were being added. The Board recognized that symptoms and complaints may be related to a fear of the unknown and even more so to a fear of a presumed danger. In the initiation of fluoridation of a public water supply, these fears rather than the fluoride content of water appear to be the cause of complaints.

The unfavorable effect of water with 1 part per million fluorides to those with other disorders as diabetes or nephritis as claimed by the opponents was weighed. The Board notes the conclusion from a detailed study published by the American Association for the Advancement of Science: "Even if all the fluoride

ingested in the drinking water (1 ppm) in a lifetime were stored in the skeleton, no injury would thereby accrue."

The Board therefore concludes that the scientific evidence available securely establishes that fluoridation of water at 1 ppm has no deleterious effect on health at any age.

THE FLUORIDATION OF PUBLIC WATER SUPPLIES

Even if its effectiveness and safety have been established satisfactorily there remains for examination other factors related to the advisability of adding fluorides to public water supplies.

Since this procedure has been challenged on various grounds the Board must state its own reasoning on the matter. The importance of "trace elements" in the development and growth of plants and animals is common knowledge. The need for iron, copper, cobalt, iodine, and similar agents is acknowledged. To these essential trace elements fluorides may now be added. Experience has established that for all to obtain such elements which are required for optimal growth and health, they must be available so the individual obtains them without special effort, as through food, salt or water. In the case of fluorides it appears reasonable to follow nature's method and to make these available in optimal amounts in drinking water. The Board has regarded this as a simple, effective and appropriate method of increasing the healthfulness of a community's environment.

The Board notes the claim of the opponents that fluoridation of public water supplies is mass medication. The latter implies treatment of illnesses or defects. The proponents pointed out that fluorine has no effect whatsoever in the cure of dental caries, but the evidence does indicate that at an optimal concentration, it permits the development of a stronger enamel more resistant to dental decay. Beckman in his text "Pharmacology in Clinical Practice" emphasizes that "fluorine is essential for formation of normal enamel with a high degree of caries resistance." In line with this evidence the Board regards fluorine as an element necessary for optimal growth and development, not as a medication for the treatment of an illness or defect.

The Board considered also the objection to "forced medication" as a violation of religious liberty. As stated above the control of fluoride level in water is not considered as medication. The objective is to improve the healthfulness of the community environment, i.e., to provide in each the healthful advantages that some communities have naturally. Jacksonville, for example, has a desirable level of fluorides in its natural water supply. The Board does not believe that any question of religious liberty is involved and the courts repeatedly have so ruled.

The legal right to fluoridate public water supplies has also been raised by the opposition. Natural water supplies are modified in several ways in the interest of public health. The proponents point out that the specific question of fluoridation has been examined already by the courts with all decisions upholding fluoridation. Illustrative of these is a recent one which came to the attention of the Board. It states as follows:

Kraus v. City of Cleveland,
Supreme Court of Ohio, June 29, 1955

Taxpayer's action seeking to restrain city from expending money for fluoridation of water supply. "The basic question presented by this case is whether a municipality has the authority under its police power, in relation to public health, to add inorganic fluoride chemicals to its water supply, where such addition will not and is not intended to have any effect on the potability, palatability or purity of such drinking water but has for its sole purpose the prevention of dental caries." Plaintiff contended that the prevention or treatment of diseases of the teeth is a matter of private health and not of public health, and that the addition of fluorides to the water constitutes an invasion of his constitutional liberties to treat his health and that of his children as he deems best and of his right to be free from medical experimentation, and the right of freedom of religion.

The Court ruled against the plaintiff and stated:

"Liberty implies the absence of arbitrary restraint, not immunity from reasonable regulations and prohibitions imposed in the interests of the community.***neither an overriding public necessity or emergency nor infectious or contagious diseases are the criteria which authorize the exercise of the police power in relation to public health.***The relation of dental hygiene to the health of the body generally is now so well established as to warrant judicial notice.***Under our modern existence the law must change and expand with mechanical and scientific progress.*** Although it is true that the actual active effect of fluoridation is confined to that period of a person's life while the teeth are developing, such benefits extend on into adult life and fluoridation legislation is not such class legislation as to invalidate it. ***There are dissenters to many established and proved scientific practices which are accepted today. Dissent to scientific method does not constitute such method an experiment, and the plaintiff's contention that fluoridation constitutes experimentation is without foundation."

Opposing witnesses suggested that alternative methods of applying fluorides for the improvement of dental health, such as the dispensing of fluorides to individuals, would be more economical. The lifetime cost per individual of the fluoridation of public water supplies according to the proponent's evidence is the approximate fee for one dental consultation with the repair of one moderate cavity. The opponents failed to provide evidence that any alternative procedure could be planned, administered, and controlled for this limited cost. The effectiveness of methods such as dispensing fluorides would have to be demonstrated since for this the continuing cooperation of all families with children would be essential. The Board is interested in such methods since fluoridation of public water supplies even if generally applied would leave unsolved the problem of reducing dental caries in rural areas. Those opposing fluoridation as now proposed could make a very worthy contribution to public health through sponsoring an adequate study of alternative procedures.

OBLIGATION OF THE STATE BOARD OF HEALTH

The Board has broad obligations for the protection of the general health. It recognizes an urgent need for the improvement of dental health. The advancement in the past two decades of the knowledge of the means of partially controlling dental caries is considered by the Board of outstanding importance. One method of effectively applying this knowledge has been proposed, tested and found to be safe and effective. Alternative possible procedures have been suggested by the opposition. Before these can be recommended, however, their effectiveness and applicability in a public health program must be demonstrated through prolonged large scale trials. Until this is done, the Board of Health can meet its obligations only through the use of the best methods known for the protection and improvement of the public health. In the opinion of the Board, the most promising method now available for the control of dental caries is the fluoridation of public water supplies, and until other procedures are evaluated and found equally effective or superior, the Board of Health must both authorize and recommend its use.

While the Board has reached its own conclusion from its knowledge of the scientific evidence available it has been amply reassured as to the accuracy of its opinion by the recommendations concerning fluoridation by the outstanding organizations of scientists. A partial list of the national bodies which have formally endorsed the controlled fluoridation of public water supplies includes:

American Medical Association
American Dental Association
American Public Health Association
American Pharmaceutical Association
American Nurses Association
American Association for the Advancement of Science
National Research Council
National Institute of Municipal Law Officers
American Water Works Association
American Hospital Association
U. S. Public Health Service
National Congress of Parents and Teachers

THE BOARD OF HEALTH POLICY ON FLUORIDATION

The present stated policy of the Board is for the local community to make its own decision regarding fluoridation of its public water supply. If fluoridation is endorsed, the Board retains the responsibility of assuring that it is controlled properly at specified levels. A qualified supervisor of the water plant is required to make chemical tests daily by a prescribed method and to send to the Board of Health Laboratories at first weekly and later monthly samples for check examination. (These tests have revealed a very exact control of the level of fluorides in fluoridated public water supplies.) The Board is convinced as to the desirability of fluoridation and knows of no more democratic and fairer method of sharing responsibility with the local communities for this program. No original observations or new data were presented by the opponents which established a need for change, and the proponents have provided data which strongly reassures the Board as to the justification and need for its present policy. It therefore reaffirms its established policy.

Statement approved and issued by the Florida State Board of Health,
October 30, 1955.

EDITOR'S NOTE:

The foregoing "Statement" of an official "State Health Agency" is, somewhat paradoxically, both of sufficient detail and brevity to make its publication in the Bulletin appropriate and feasible. The role of State Boards of Health in the matter of fluoridation is of the utmost importance. This report of one Board's "open hearing" on the subject, the meticulous outlining of pro and con testimony, the evidence of the "critical reviewing" by the Board of the testimony and the clear cut logic of the ultimate decision all combine to make the statement an excellent reference material. Permission to publish the report was secured through Dr. Floyd H. DeCamp, Florida State Dental Director.

EDITORIALS

MICHIGAN WORKSHOP

At the recent Dental Public Health Workshop, conducted at the University of Michigan, there were 10 state dental directors present. Of the ten, one was a consultant, two were chairmen of work groups, and one a secretary of a work group. In view of the budget limitations which exist in most of the state dental programs, especially with regard to out-of-state travel, it was still disappointing not to see more state dental directors present. It is the writer's opinion that the majority of participants at such conferences should be not only state directors, but also state staffs—dentists, hygienists, and other personnel. The experience, ideas, and realistic attitudes of state personnel are essential in planning objectives and evaluation for state dental programs. It is always good to have the advantage of practical thinking along with the theoretical approach to problems.

It was very encouraging to notice the increasing number of "youngsters" in the field of dental public health who let their presence be known in the midst of their peers. New blood is always stimulating and welcomed. New ideas, concepts, and thinking will help dental public health gain its rightful place of importance.

Another encouraging aspect was the number of participants representing local dental programs. Objective planning for local programs is certainly an area of need. The workshop discussions should prove helpful for this group when program planning and program justification are attempted. It was rather clearly demonstrated at the workshop that specifically stated objectives are a must if program evaluation is proposed.

H. W. B. Jr.

SLAVE DRIVER

Simon Legree was not a nice character. Indeed today, some one hundred years after his fictional life-time, his name is used as the antithesis of kindliness or, at best, as a facetious nickname for one who forcefully directs the activities of a group. We wonder whether an analysis might not result in the term becoming an actual compliment.

Holding no brief for the whip-cracking proclivity of the original "Simon" we still cannot overlook the fact that his supposedly modern counterparts are influential in getting things accomplished. When they - the modern Legree's - pile the work on the "slaves" of the project, when they crack their authoritative whips, when they seem to lose all sense of time and of the pleasures attending other possible phases of daily routine - two facts are of importance to remember. First, that they have set out to see an objective accomplished and, second, that

in preparing for the accomplishing of that objective they probably have slave-driven themselves just as strenuously as they do their subsequent workers.

As may have been surmised, we have recently participated (as a "slave") in a W O R K S H O P. We suffered (?) under the stinging lash of the Workshop's director. We groaned, griped and growled but, paradoxically, we were gratified by the outcome of the project, an outcome credit for which, however, much due to our "sweat and toil and tears" is even more creditable to the tireless effort, preliminary and continuing, of the director.

Would that we knew of some more kindly character, real or fictional, whose name might be used in place of Simon Legree. We don't. So - we will probably continue to use the latter. But when we do its connotation of hatefulness and brutality will be exchanged for that of awe, of admiration and even of affection for one who makes us do the impossible.

THE MICHIGAN STATE DENTAL ASSOCIATION
CENTENNIAL AND DENTAL PUBLIC HEALTH

The Michigan State Dental Association during the third week of April held its 100th meeting and declared itself to be the first state dental association to be in continuous existence for 100 years. The centennial meeting was a most outstanding event. Naturally, considerable historical data were gathered together to highlight the important events of dentistry in Michigan over the past 100 years. Of significance to public health, and in particular dental public health, was the fact that one of the outstanding highlights emphasized in the historical record was the contribution of organized dentistry in Michigan to public health and dental public health in the state. Considerable mention was given to the establishment of a dental health bureau in the Michigan Department of Health, the establishment of training courses for public health dentists at the University of Michigan, and the Grand Rapids water fluoridation project. Hats off to the Michigan State Dental Association and to the dentists of the state who in particular advanced dental public health.

D. F. S.

WHY HAS DENTAL HEALTH BEEN EXCLUDED?*

In recent years the earmarking of federal funds has been the method used in the promotion of programs in the fields of cancer, venereal disease, tuberculosis, heart disease, the treatment of crippled children, the improvement of maternal and child health, and recently for the purchase of Salk vaccine to be given to selected age groups. Dental health has not been included

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*An Editorial from the Tennessee Dental Association Journal, January 1956.

even though there have been policies established by the American Dental Association which support federal grant-in-aid dental health programs.

As early as 1940 the National Health Program Committee of the American Dental Association recommended that federal grant-in-aid should be made to the states for the purpose of initiating and maintaining state and community dental health programs that would produce a permanent and effective influence on the public health. In 1945 the American Dental Association drafted legislation aimed to promote financial aid to states for the prevention and control of dental diseases and for the treatment providing the methods of rendering services would be determined at the local level. There were other specific provisions made for the training of dental public health personnel, grants for studies and demonstration programs and for funds to enable the U. S. Public Health Service to conduct studies which relate to dental health practice. Again in 1952 the American Dental Association adopted two statements specifically relating to the need for more intensive action for the improvement of dental health in the various states and communities and the need for federal support of these activities.

The American Dental Association has adopted policies in favor of earmarked grant-in-aid funds to state health departments to be used for dental activities. Little action has been taken in regard to the policies which have been passed. It is now time for the dental profession to make its wishes known to the members of Congress. If not these policies will become only discarded pieces of paper.

At the planning meeting for the Eighth Annual Workshop Program of the Tennessee State Dental Association, the need for more adequate dental health education was mentioned most often by the members in attendance when asked what they thought was the most urgent dental problem which existed in Tennessee. It is hoped that the program of the Division of Dental Health of the Tennessee Department of Public Health is of the type that can and does supply many of the answers and solutions which will aid the profession toward reaching the goal of the Eighth Annual Workshop Program which has as its theme "Broadening Dental Horizons in Tennessee." The dental health of the people of Tennessee can be improved and one important way to assist in such improvement is by having a better informed population. The profession can assist in such a program by seeing to it that sufficient funds are available to provide strong and effective dental health programs. Shouldn't district and state dental societies adopt policies in favor of obtaining sufficient funds to operate a well-rounded dental health program? Shouldn't the dental profession, through its delegated officials, talk to the Congressmen and let it be known that there is merit in supporting earmarked funds for dental public health programs?

EARMARKED FEDERAL FUNDS FOR DENTISTRY

A recent editorial* in the Journal of the Tennessee Dental Association pinpointed the necessity for concerted action by the dental profession to obtain earmarked federal grant-in-aid funds for dental health programs. The important role that earmarked federal funds have played in the development of programs in the field of cancer, venereal disease, tuberculosis, heart disease, the treatment of crippled children and the improvement of maternal and child health was pointed out. The editorial also noted that, despite the fact that the American Dental Association established policies calling for earmarked funds for dental health as early as 1940, dental health has never been included as a specific part of the grants program. The writer commented that little action has been taken in regard to the official policies of the American Dental Association which favor local dental programs. Summing up the present situation, the editorial concludes, "It is now time for the dental profession to make its wishes known to the members of Congress. If not, these policies will become only discarded pieces of paper."

This editorial is another indication of the increasing interest in providing better financial support for dental public health activities. At the 1955 meeting of State and Territorial Dental Directors, the group reaffirmed their previous stand in favor of earmarked federal funds. At the annual meeting of the A. A. P. H. D. in San Francisco, this Association re-endorsed the necessity of obtaining such funds and, in addition, appointed a special committee to initiate new activities in this field. This committee, composed of Carl Sebelius, Bob Downs, Tom Clune and Wes Young, have initiated a program of action following the recommendations of the annual meeting. The first phase of this program calls for the presentation of the problem of implementing the dental profession's official policies on federal funds to as many state and local dental societies as possible. It was the feeling of the committee that effective action to implement this policy will depend primarily upon support received from the dental profession. It was logical, therefore, to start by redefining the problems involved and in enlisting the support of the dental profession on the local level. It is hoped that this can be accomplished within the coming year so that further action on the national level can be planned for next year.

It is logical that the dental profession should play a leading role in presenting the necessity for federal support of state and local dental programs. The expansion of dental public health activities is of definite benefit to the entire profession. The private practitioner of dentistry, as well as the public, is the final beneficiary of dental health education—the fundamental ingredient of all dental health activities. The growth of the dental profession in stature and financial stability is dependent upon an increase of the public's awareness of the importance of regular, high-quality dental care. Dental public health activities are the single most important factor in improving the attitude of the public toward dental care.

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*Republished on preceding pages.

Although the dental profession in cooperation with voluntary health organizations and other lay groups will have to play the major role in encouraging Congress to appropriate earmarked funds for dentistry, the members of the profession who are engaged in dental public health must assume the responsibility for encouraging and motivating these activities. Unless public health dentists are convinced of the importance of this problem and are willing to work at the local level to create support for it, it is hardly to be expected that others will give assistance. Without aggressive action on the part of public health dentistry, "these policies will only become discarded pieces of paper."

W. O. Y.

FINAL?

The March J. A. D. A. contained what was titled as a "Final Report" of the Newburgh-Kingston caries-fluorine study. An excellent resume of the background of the ten year study, of the painstakingly scientific manner in which it was conducted and of the equally scientifically sound findings, it is still questionable as to its being "final."

True, the study is completed as are, from the standpoint of the originally projected ten years, those paralleling studies in Grand Rapids and in Brantford. But these ten year reports are "final" only in the sense that they summarize the work of a decade - work, the effect of which will continue to be reported year after year. Fifty - or a hundred - or any number of years from now Johnny Jones or Mary Smith will "report" to their parents "The dentist didn't find even one cavity." Those will be the continuing reports on the studies regarding the deterrent influence of fluoridated water on dental caries.

The Massachusetts volley of shots that was "heard round the world" still reverberates in the annals of history. The names of those colonial heroes may be forgotten; their musket fire has not been. Time, too, may lose sight of the names of those who worked in the fluorine studies - those "visonaries" who had "the simplicity to wonder" whether or not caries might be controlled. But their findings will never be forgotten. "Final Report," my eye!!!

N O T E S and N E W S

PURPOSEFUL PROGRAM

The New Mexico Department of Public Health, the University of New Mexico, and the New Mexico State Dental Society are the proud recipients of a financial grant from the W. K. Kellogg Foundation to establish and evaluate a program of continuing education for the dentists of New Mexico. Inasmuch as New Mexico has no school of dentistry and inasmuch as the nearest school of dentistry is over 600 miles away, it has been difficult and costly for New Mexico dentists to secure postgraduate dental education. The prospectus for the continuing education program in New Mexico is for a four-year period. Various types of continuing education will be tried out—intensive short courses centralized at the University of New Mexico in Albuquerque, traveling seminars throughout the state to the various component societies, and sending dentists away to schools of dentistry in other states. The University of New Mexico's Division of Extension, Summer Session and Community Services will evaluate the program to determine its effectiveness. A considerable portion of the evaluation will be based upon personal interviews with the dentists who have taken the various courses. A substantial portion of the grant from the Kellogg Foundation will be utilized solely for the evaluation. The New Mexico State Dental Society has set aside a fund of $1,000.00 as a reserve for contingencies.

The first portion of the program begins in February, 1956, with an intensive two-day postgraduate course in dentistry for children and caries control at the University in Albuquerque. It is significant that this first Program of Continuing Education for the Dentists of New Mexico falls during Children's Dental Health Week. Hence, the New Mexico State Dental Society and the dentists of the state, as their contribution to Children's Dental Health Week, will be taking time off from their busy practices to "go back to school" and refresh their knowledge in modern up-to-date methods of dentistry for children and caries control. Dr. Charles A. Sweet of Oakland, California, will give the course in dentistry for children with clinical demonstrations at the Kirtland Air Force Base Dental Dispensary. Dr. Philip Jay of the University of Michigan School of Dentistry, Ann Arbor, will lecture on current concepts of caries control. It is emphasized that these courses are of postgraduate college caliber and "are not just another dental meeting." Certificates will be granted by the University to all dentists completing the two courses.

It is hoped and expected that when the Kellogg Foundation Grant is withdrawn at the end of four years, that the three agencies aforementioned will take over on their own and continue the postgraduate education for dentists.

REVIEW

GRAINGER, R. M. The evaluation of community dental health. A system for recording and statistical analysis. Toronto, Dental Statistics and Research Section, Division of Medical Statistics, Department of Health for Ontario, 1955. 47 p. + appendix, processed.

This brochure describes, step by step, systems for the differentiation, recording, and statistical processing of dental survey data. Its objective is the compilation of material complete and detailed enough for the local program director, and comparable enough that data from a number of local programs may validly be combined and considered as a whole. It is, obviously, the result of extensive experience with actual field procedures and real data. The novice who is willing to follow these suggestions to the letter should be able to do a solid job with his first survey.

But this is more than a do-it-yourself manual for the uninitiated. There is a reasoned exposition of the reasons why and why not which is one of the clearest and most concise in current literature.

Rule of thumb instructions for testing the validity of distributions and means are included.

NOTE: (The Editor is indebted to Dr. A. L. Russell of the N.I.D.R. for the foregoing review of the brochure referred to on page 62 of the February, '56 Bulletin.)

TRANSFER

Dr. V. L. Diefenbach, U.S.P.H. Service, has been transferred from a Chicago assignment to Washington, D. C. where he will serve as Assistant Recruitment Officer, Division of Personnel, in the office of the Surgeon-General.

REGIONAL MEETING

State directors and Federal personnel of Regions I, II, and III of the U.S.P.H. Service met in New York City on February 23 and 24. With twenty-three registrants the meeting was presided over by Dr. Alonzo Garcelon, state director of Maine.

The two day program included presentations by Miss R. Clough, State Health Education Director of Maine, Mr. J. W. Milford, Director, Dental Information Bureau of New York City, Dr. Walter Pelton, Dr. John Fulton, Dr. Norman Gerrie, Dr. A. Bushel and Dr. L. F. Menczer.

The business meeting of the group saw the election of Dr. Frank Livingston of New Hampshire as Chairman for the coming biennium. Subsequently, Doctor Livingston's declination of the office resulted in the substitution of Dr. R. C. Leonard in the chairmanship.

NEW DIRECTORS

Two state dental directorship openings have been filled recently by the appointment in Arkansas of Dr. Maurice J. Friedman as "acting director" (succeeding the late Dr. H. Shirley Dwyer) and in Vermont by the appointment of Dr. Newton E. Howe as the first dental director of the newly established dental division.

CORRESPONDENCE

Austin

March 27, 1956

Dear Dick:

I am indeed sorry that you should have heard* third hand of my move to Texas. There was so much confusion and so many details connected with the move, as you can realize, that I failed to notify some of my best friends.

I trust with this official notice, the Editor of the Bulletin will give it sufficient fanfare and Page One display as benefits anything happening in the Sovereign State of Texas (formerly the Republic of Texas).

Ed Taylor's many friends will be interested in knowing, I am sure, that his health is better. Ed officially retired last September. However, I am free to use Ed's experience and knowledge of state dental affairs through frequent informal conferences.

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* Editor's note: See p 59, Feb. '56, Bulletin)

With all kindest regards, I am

Cordially yours,

/s/ Frank

Frank P. Bertram, D.D.S.
Director of Dental Health

5717 Kingswood Court
Bethesda, Maryland

My dear Dick:

You probably are not surprised at my geographical gyrations but may be surprised that I landed in Maryland. Well we are here, I hope, for keeps. The next step will be a trailer.

Being a Maryland taxpayer, I will naturally take an interest in my dental division of my State Health Dep't as well as my dental director. Please give me no cause for complaint.

We left Florida because Mrs. C. could not stand the constant high humidity. We came here largely because all our family is here and we are close to P.H.S. medical-dental facilities. We left Chapel Hill last July 1 and left Florida last month.

The above address is just off old Georgetown Rd. We bought it. Hope we can get together sometime and pow wow.

Cordially,

/s/ Frank Cady

TELEGRAMS

Hon. John E. Fogarty, Chairman
Sub. Committee on Health
Committee on Appropriations
House of Representatives
Washington, D.C.

DENTAL DISEASES REPRESENT ONE OF THE MAJOR HEALTH PROBLEMS. BASIC RESEARCH RESULTING IN THE DEVELOPMENT OF PREVENTIVE MEASURES SUCH AS FLUORIDATION

OFFERS THE GREATEST HOPE FOR CONTROL. THE AMERICAN ASSOCIATION OF PUBLIC HEALTH DENTISTS RESPECTFULLY URGES FAVORABLE CONSIDERATION OF THE PROPOSED INCREASE IN APPROPRIATIONS FOR THE NATIONAL INSTITUTE OF DENTAL RESEARCH AS REQUESTED BY THE AMERICAN DENTAL ASSOCIATION.

F. L. Erlenbach, D.D.S., President
R. D. Smiley, D.D.S., Secretary

Mrs. Charles D. Center, * Asst. Dir. of Public Health Education-State Dept. of Public Health, Atla-

I am delighted to inform you that this morning the full committee on Labor and Public Welfare of which I am certain voted unanimously to favorably report S.3246 to the Senate. Your excellent contribution to our hearing has borne fruit. Best regards

Signed - Lister Hill Chairman Senate Committee & Public Welfare

Mrs. Charles D. Center
Assistant Director of Public Health Education
Dept. of Public Health - Atla.

This will advise you that, as Chairman of the Committee on Labor and Public Welfare, Senator Hill brought up the Bill S.3246 on the floor of the Senate and, after his explanation of the measure, won its unanimous passage. The Senate has approved an authorization of 5 million dollars for the construction of the Dental Institute Building, and the measure will now be sent to the House Committee on Interstate and Foreign Commerce.

Signed - William G. Reidy Professional Staff Member Committee on Labor & Public Welfare

* Editor's Note: Mrs. Center, a long-time friend of dental public health testified in support of Senate Bill 3246, to provide funds for construction of the long overdue dental research building at the National Institute of Health. All dental health personnel fortunate enough to know of Mrs. Center's keen mind and charming personality will second Senator Hill's statement re her "excellent contribution."

CLEVELAND TO FLUORIDATE

June 1st should see the inauguration of water fluoridation in Cleveland, Ohio following the decisive rejection by that city's Council of a resolution introduced to block the project. The vote was 21 to 11 in support of fluoridation.

VICTORY IN NEW HAMPSHIRE

The "News Letter" of the New Hampshire Dental Society's Council on Dental Health reports success in a Lebanon, N.H. citizens' vote on fluoridation of that community's water supply. A well organized pro-fluoridation overcame the opposition offered by a few opponents among whom there was, of course, a chiropractor.

OPENING

Oklahoma is (or should be) looking for a successor to Frank Bertram, now Texas State Dental Director.

NEW MEXICO JOINS

New Mexico has joined the ranks of those states in which fluoridation projects are a "fait accompli." Raton, N.M. has started fluoridation and, according to report, Santa Fe will shortly do so.

CONSULTANT PROGRAM

The New Mexico Department of Public Health will hold a two day training session for dental health consultants (to be selected from practitioners around the state). Participants in the training program will include dental personnel of the Department and, from out the state, Dr. Harry Bruce, Jr. and Miss Betty Warner, D.H.

NEW DENTAL HEALTH EDUCATION MATERIAL

The A.D.A. Bureau of Dental Health Education has announced the availability of three 20 second 16 mm sound films for use as TV "spot" announcements.

FOREWARNING

The scheduling of A.A.P.H.D. annual meetings just prior to those of the A.D.A. makes pertinent the following announcement of sites and dates the next five meetings:- Atlantic City, October 1-4, 1956; Miami, November 4-7, 1957; Dallas, November 10-13, 1958; New York City, September 21-24 1959, and Los Angeles (dates unspecified), 1960. Save your pennies.

THIS IS NEWS!!!

The following item is taken from the April 12, 1956 A.D.A. News Letter: -

Dr. Haven Emerson, pioneer public health physician and a member of the New York City Board of Health, last week described fluoridation opponents as "fuzzy-minded nitwits." The 81-year old physician has been a member of the health board for 22 years and served as health commissioner from 1915-17. Dr. Emerson charged that opponents of fluoridation had been swept "off their feet by emotional ignorance." He added: "Every advance in this (public health) field has been met by objections from self-appointed but unqualified citizens."

MICHIGAN WORKSHOP

At the request of the Editor an informal reporting on the April Workshop at the University of Michigan was taken by Associate Editor, Dave Striffler. He has submitted the following:

Some 70 people registered as participants at the Fourth Workshop on Dental Public Health held April 2-6, 1956 at the University of Michigan, Ann Arbor. Among them were several state dental directors, many from the United States Public Health Service, some students of dental public health, and a few faculty members. The workshop was typical in that it was a WORKshop. Many hours were spent in the library and sitting up nights writing reports. Many new faces were seen and many, many old faces were missing. Most dentists who took their training in dental public health in Michigan, of course, missed Miss Hilda Rankin (who many of us thought it was not possible to replace). However, the

school of dentistry has come up with an excellent librarian to replace Miss Rankin, by name, Rose-Grace Faucher, who was most gracious in assisting the participants with their library assignments. Among the foreign countries represented at the conference were Canada, Mexico and Israel.

Maury Massler was greatly in evidence with his "critiques" of each paper presented---and for the most part his critiques were pertinent and succinct.

Rudy Friedrich, Secretary of the Council on Dental Health of the ADA, apparently is a strong supporter of the public health dentists now, since he was accompanied by his young son, and one can only conclude that he was attempting to indoctrinate his boy into dental public health early. All in all, the workshop was stimulating, if seemingly overwhelming. Many of the assignments could not be completed in their entirety and had to be deferred to a later time or a later workshop.

Ken Easlick was his inimitable self with one exception---he dug into his jeans to pay for the "premedication" prior to the Tuesday night banquet.

Ken Easlick will have a rough job getting the final report into shape and it probably will not be published much before early fall.

Ed McGavran, Dean of the School of Public Health, University of North Carolina, made many valuable contributions in his role as a nondentist. The contributions of the many participants who are not strictly in the dental health field were very valuable, especially those of the social psychologists present.

NEW ADDRESS

Dr. W. J. Bellinger notifies that his address is now 112 West 7th Street, Topeka, Kansas.

NEW GUIDE

Under the joint development of the Georgia Departments of Health and Education a remarkably comprehensive brochure "School Health Guide" has been issued. The Bulletin is appreciative of having received a copy from Dr. John E. Chrietzberg, Georgia State Dental Director.

DR. DAVID AST HONORED

For his "untiring and successful efforts on behalf of the fluoridation program, not only in New York State but throughout the country" Dr. David Ast, New York State Dental Director has been made the recipient of the Hanrahan Memorial Award "presented biennially to the individual contributing the most to organized dentistry."

. . The award was established in 1945 by the Worcester (Massachusetts) District Dental Society through the generosity of Mr. Paul Hanrahan as a memorial to his father Dr. Timothy Hanrahan and his brother Dr. Raymond Hanrahan. Doctor Ast is the first individual living outside of the Society district to receive the award - a gold medal - and was the unanimous choice of the Society's "Selective Board." The award was made at a meeting on April 9, 1956.

In felicitating Doctor Ast on this richly deserved honor the Bulletin also wishes to congratulate the Society for the good judgment shown by their selection of him.

WATCH IT

Inasmuch as one of its stated purposes is that of opposing fluoridation as "a giant plot fraught with grave dangers to general health" it is urged that close scrutinybe given the newly organized "National Health Federation." Reported in the March '56 issue of Medical Economics the organization has as additional objectives the support of legislation tending to eliminate "discrimination between classifications of licensed healers," the waging of war against the "gestapo (inspection) methods" of food and drug inspectors and to give "the public and the progressive and non-medical professions.....a powerful, organized voice to speak in their behalf in matters of health." According to Medical Economics the organization will be headed by "a twenty-seven-man board of governors.....packed with chiropractors" and including a naturopath, a doctor of divinity and a dentist.

Even tho' never hearing of the Federation again would be too soon we suggest that dental health personnel "watch it."

TOR MEMORIAL FOR FLUORIDATION

In August 1955 the Bulletin reported on the establishment of a fund for support of a fluoridation project in New Canaan, Connecticut. The fund was to be a memorial to the tragically killed young son of Mr. and Mrs. A. Victor Peterson of that community. The Bulletin attempted to express the appreciation of all dental public health personnel to the bereaved parents.

Comes now a postscript to that incident. Through Frank Erlenbach, A.A. P.H.D. President, the following letter has been received for publication. So well does that fluoridation pioneer Dr. Frederick S. McKay, express his appreciation of the Peterson's action that it is indeed newsworthy.

Dr. Frederick S. McKay
700 Exchange Bank Bldg.
Colorado Springs, Colorado

November 6, 1955

"Tor Memorial for Fluoridation"
Mr. and Mrs. A. Victor Peterson
New Canaan, Connecticut

Dear Mr. and Mrs. Peterson,

I have read of the Memorial Fund which has been established to set up a project to fluoridate the public water supply of your city as a memorial to the tragic loss of your young son. This is a project that is unique and far sighted in that it will provide benefit to present and unborn generations of children which is worthy of only the highest admiration.

By way of introduction, I may say that my interest in this subject stems from the fact that I conducted the original investigation commencing in 1908 that led directly into the present practice of water fluoridation.

Since I live in a community (Colorado Springs) that has used a fluoridized water supply for about seventy-five years, I can observe daily the tremendous beneficial effect the use of this water supply has had in reducing dental decay among our native population.

I have pleasure in enclosing my check for five dollars as a contribution to the "Tor Memorial for Fluoridation."

Very truly yours,

Signed/ Frederick S. McKay

TWO BOOKS

The Original Has This Signature - W. K. Kellogg - by Horace B. Powell. Englewood Cliffs, N.J., 1956. 358 pp.

The biography of a 20th century Horatio Alger-like character whose name may be most widely known because of his development of a cereal grain industry but who too, as a philanthropist used his wealth not only in the building of institutions but also for the health and happiness of countless thousands of people all over the world.

To dental health personnel (to point up but one facet of W. K. Kellogg's generosity) the name Kellogg denotes repeated instances of expenditures for improvement in this phase of health. The field work in dental health in Michigan, the aid to dental education, the financing of studies on administrative practice, the beneficence of underwriting graduate study fellowships - these and scores of other good works of the "Kellogg Foundation" marks its founder as a rare - alas! far too rare - "character."

For he was a character, one who was reportedly rather devoid of a sense of humor but one who, this reviewer will wager, often chuckled inside. No humor? How about the 14th of his "fifteen suggestions, not commandments." It reads, "Remember it took six days for Jehovah to create the earth. We should not try to reconstruct it in any less time."

That Kellogg derived satisfaction from his philanthropics is most earnestly to be hoped because, in general, his was not a happy life. Family feuds, disappointments and, in later years, complete blindness marked his colorful career. His biographer has studiously reported these phases of his life and in doing so has delineated Kellogg as a truly great man.

THE FIRST TWENTY FIVE YEARS

A worthy companion to the book reviewed above, this volume is a marvelously detailed report of the accomplishments of the Kellogg Foundation in its first quarter century of activity. One is amazed by the number and diversity of projects sponsored in whole or in part by the Foundation.

Of particular interest is the wide-spread and diversified programs dealing with dentistry, dental education and dental public health. These would seem to indicate at least two things: (1) That Emory W. Morris, President and General Director of the Foundation is still very much a public health dentist and (2) that the more recent directing of the Foundation's dental projects by A.A.P.H.D's own Dr. Philip E. Blackerby, Jr. has been of the highest calibre. The Foundation is to be congratulated on having both of them as part of its administrative staff.

FLASH! Announcement has been made of the promotion of Doctor Blackerby to the post of associate general director of the Kellogg Foundation. Congratulations, Phil.

LEONARD FROM LEONARD

Editor Leonard thanks Leonard Menczer for the nice note re the February Bulletin. Even the inclusion of the term "old duffer" failed to dampen appreciation of the otherwise kind words. Seriously, it is gratifying to know that the Bulletin pleases.

TRITHART ELECTED

It was good to see A. H. Trithart at the Ann Arbor meeting and nice to learn later - and very belatedly - that he was elected President of the Tennessee Public Health Association last December.

JUSTIFIED GRATIFICATION

From Ernest Branch, North Carolina Dental Director, comes copies of letters complimenting his Division on its school dental health program. From school and county health department personnel the letters point up the values of both the dental health education and the corrective care program sponsored by the Division. Knowing Ernest it may be assumed the letters please him, and justifiedly so.

BASED ON RUMOR

Rumor having it that at least one A.A.P.H.D. member will be sojourning in Europe sometime this summer the Bulletin is pleased by having the opportunity to appoint said individual as a "roving reporter" with the specific assignments of (1) regularly contributing items (re his travels) and (2) covering the dental public health aspects of the 12th International Dental Congress of the "Federation Dentaire Internationale" to be held in Rome, Italy, September 7 to 14, 1956. Sorry to be arbitrary, but this is a "must" assignment.

DENTAL HEALTH 'NEATH NORTHERN LIGHTS

From Elmenendorf Air Force Base in Alaska and through the kindness of Major C. O. Dummett, U.S.F.A. Dental Corps, brochures, dental meeting programs and news articles, all of which stress various aspects of preventive dentistry and dental public health have been received. The emphasis placed on "prevention" indicates the propiety of Major Dummett's official designation, "Preventive Dentistry Officer."

MEDICAL SOCIETY REPUDIATES ANTI-FLUORIDATIONIST MEMBER

George L. Waldbott, a prominent Detroit allergist and publisher of the anti-fluoridation newspaper "The Fluoridation News" has failed to obtain support for his position as an anti-fluoridationist from the local medical society to which he belongs. The report of the Public Health Committee of the Wayne County (Michigan) Medical Society which appeared in the February 6, 1956, issue of the "Detroit Medical News" contained the following paragraph:

> "At the request of Dr. Waldbott, the Committee reconsidered the question of water fluoridation. Since in the opinion of the Committee, Dr. Waldbott did not submit sufficient evidence to substantiate his charge that water fluoridation is a health hazard, it was recommended that the Wayne County Medical Society reaffirm its previous action endorsing fluoridation subject to certain specific controls outlined by the Detroit Department of Health."